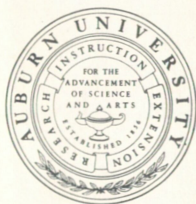


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WALTER BRYAN JONES, STATE GEOLOGIST

BULLETIN 64

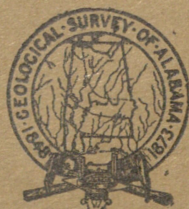
SUBSURFACE STRATIGRAPHY

OF

NORTHWEST ALABAMA

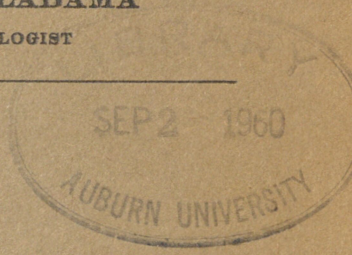
BY

WINNIE McGLAMERY



UNIVERSITY, ALABAMA

1955



GEOLOGICAL SURVEY OF ALABAMA

WALTER BRYAN JONES, STATE GEOLOGIST

BULLETIN 64

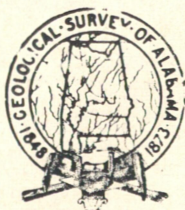
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1955

WETUMPKA PRINTING CO.

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Wetumpka, Ala.

1955



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LETTER OF TRANSMITTAL

University, Alabama

27 July, 1955

Honorable James E. Folsom

Governor of Alabama

Montgomery, Alabama

Sir:

I have the honor to transmit herewith the manuscript of a report entitled "Subsurface Stratigraphy of Northwest Alabama" by Winnie McGlamery, with the request that it be printed as Bulletin 64 of the Geological Survey of Alabama.

Respectfully,

WALTER B. JONES

State Geologist

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INTRODUCTION

By WALTER B. JONES

Previously published well log bulletins have been in the form of "drillers' " logs. With this report a new series is inaugurated, to better serve those most vitally interested in the geology of the state. It is hoped that reports covering Southwest and Southeast Alabama can be published during 1956.

Most of the reports of wells in this bulletin are not listed in previous reports. Since the passage of oil and gas conservation laws in 1939, the Survey has been getting cuttings and cores from all wells, which has made this report possible.

The author has been with the Geological Survey of Alabama for many years. For the past decade she has spent most of her time studying cuttings and cores from wells; and the rest on outcrops in Alabama and adjacent states. Petroleum geologists are frequent visitors to Miss McGlamery's laboratory, both for discussions and information. That is a service which is happily rendered.

When information on individual wells is wanted, typewritten copies are available for most wells. It should be remembered that all information normally is withheld for six months, following completion of a well, unless the operator directs earlier release.

Serious students often visit the laboratory for the purpose of making their own studies of cuttings and cores, Schlumberger logs, etc., of wells of special interest. However, that sort of activity must be arranged in advance. It is the aim of the Survey staff to obtain all possible information on the geology of the State, surface and sub-surface, and making it available to all interested parties.

PALEO-STRATIGRAPHIC REPORTS

BLOUNT COUNTY

Drummond #1 Wall

NW/4 Sec. 30—T 13 S—R 3 W

Blount County, Ala.

Elev. 365 ft.

Began October 1939

Completed February 23, 1940

185-267.6 —Hard coarse-grained sandstone.

Core: (2) Conglomerate with asphaltic residue. Core shows slickensides.

(3) Hard light gray coarse-grained, micaceous sandstone.

(4) Hard light gray medium-grained micaceous sandstone, non-calcareous.

497-507 —Core—(1) Light gray conglomerate with inclusions of brown sandy clay, and gray micaceous shale.

(2) Hard coarse-grained sandstone with sub-angular grains and quartz pebbles with odor and stain of oil.

(3) Light gray hard medium-grained quartzitic sandstone with mica, non-calcareous.

507-16 —Core—(1) Same with asphaltic streaks.

(2) Same, stained with oil.

(3)

516-24 —Core—Same with inclusions of brown clay carrying plant impressions and large quartz pebbles.

524-31 —Core—Light brownish gray very hard medium-grained sandstone.

531-36 —Core—Light gray very hard medium-grained sandstone.

536-41 —Core—(1) Light gray hard fine-grained sandstone, micaceous, with lenses of black micaceous shale.

(2) Medium gray hard fine-grained sandstone with alternating black shale, lenses, micaceous.

(3) Light gray hard fine-grained sandstone with mica and asphaltic streaks.

541-551.6 —Core—(1) Light gray hard fine-grained sandstone with mica.

(2) Brown coarse-grained sandstone with pebbles; quartz grains angular. Odor of oil.

(3) Hard black micaceous shale.

(4) Light gray quartzitic sandstone with mica.

551.6-558 —Core—Light gray quartzitic sandstone with black shale lenses.

558-66 —Core—(1) Light gray hard sandstone with asphalt streaks.

(2) Same, with mica; part of sandstone coarse-grained.

566-76 —Core—Light gray hard fine-grained micaceous, non-calcareous sandstone with asphalt streaks.

- (2) Same, with more mica. Asphalt streaks. Part of core shows slickensides.
- 576-85 —Core—Light gray hard fine-grained sandstone with black micaceous shale lenses.
- (2) Light gray hard coarse-grained sandstone.
- 585-91 —Core—Same with mica and asphalt streaks.
- 591-95 —Core—(1) Light gray hard coarse-grained sandstone.
- (2) Black micaceous sandy shale with sand lenses.
- 595-606 —Core—(1) Same.
- 606-14 —Core—(1) Same. Core showing slight dip.
- (2) Light gray hard sandstone.
- 614-22 —Core—Same with black, micaceous shale lenses. Core shows slickensides.
- 622-30 —Core—Light gray coarse-grained sandstone with mica. Oil streaks.
- 630-33 —Core—Same. Core has slight dip.
- 633-42 —Core—Same, with asphalt streaks.
- 642-52 —Core—Same. Core shows considerable dip.
- 652-70 —Core—Same. Core shows considerable dip and slickensides.
- 670-74 —Core—(1) Hard light gray quartzitic sandstone.
- (2) Coarse-grained sandstone stained brown, with slight oil odor.
- 674-82 —Core—(1) Same, with large quartz pebbles.
- (2) Light gray coarse-grained sandstone with mica and asphalt streaks.
- 682-88 —Core—Same.
- 688-704 —Core—Same.
- 704-11 —Core—Hard coarse-grained sandstone stained brown; odor of oil.
- 711-14 —Core—Light gray sandstone with streaks of asphalt.
- 722-29 —Core—Hard light gray sandstone with asphalt in cavities.
- 729-30 —Core—Light gray hard coarse-grained sandstone.
- 730-39 —Core—(1) Light gray hard sandstone with black micaceous shale lenses.
- (2) Hard light gray sandstone with gray shale lenses.
- 739-54 —Core—Same with black sandy shale lenses.
- 754-64 —Core—Black micaceous, non-calcareous shale with light gray hard fine-grained sandstone lenses.

Coal Measures

- 764-68 —Core—(1) Hard black micaceous shale and sandy shale alternating.
- (2) Greenish gray non-calcareous clay with small yellow concretions.

Pennington

- 768-73 —Core—(1) Dark greenish gray non-calcareous clay.
- 773-85 —Core—(1) Medium greenish gray non-calcareous shale.
- (2) Hard greenish gray shale with streaks of gray limestone.
- (3) Same with more crystalline limestone.

- (4) Gray crystalline limestone with **brachiopod impressions**.
Fenestella Bryozoa.
 - (5) Greenish gray shale with small amount of limestone.
Bryozoa and Crinoid stems.
 - (6) Brownish gray crystalline limestone.
 - (7) Brownish gray crystalline limestone. Shale in part of core.
Core shows slickensides.
 - (8) Brown crystalline limestone and green shale, fossiliferous.
Crinoid stems abundant.
Bryozoa.
 - (9) Gray non-calcareous fine sandy micaceous shale.
 - 785-801 —Core—(1) Greenish gray sandy shale, calcareous in part.
(2) Same.
 - (3) Hard light brown crystalline limestone.
 - 801-29 —Core—(1) Same with some pyrite.
(2) Light brown crystalline limestone and gray shale.
Crinoid stems.
 - (3) Light brown crystalline limestone. Showing slickensides.
 - (4) Medium greenish gray calcareous shale.
 - 829-31 —Core—Dark greenish gray to black non-calcareous shale.
 - 831-36 —Core—Same as preceding.
 - 836-38 —Core—Brown crystalline limestone, core showing fractures.
 - 836-45 —Core—(1) Same, core showing slickensides.
(2) Same.
 - 845-64 —Core—(1) Light gray crystalline limestone with calcite veins.
Core shows slickensides.
 - (2) Light gray crystalline limestone.
 - 864-74 —Core—(1) Same with fractures.
(2) Light gray crystalline limestone with **brachiopod impressions**.
 - 874-95 —Core—(1) Medium brownish gray crystalline limestone.
(2) Same.
Brachiopod in core.
 - 895-913 —Core—(1) Hard greenish gray lime and crystalline limestone.
(2) Very hard light gray limestone.
(3) Same.
 - 913-17 —Core—(1) Dark greenish gray non-calcareous shale with lime-
stone inclusions.
(2) Hard dark red and green non-calcareous shale. Core shows
slickensides.
Pyrite noted.
 - (3) Dark red shale.
 - (4) Dark red and green slightly calcareous shale.
 - 917-24 —Core—(1) Dark greenish gray shale.
(2) Same and gray crystalline limestone, partly oolitic. Pyrite.
- Bangor**
- 924-37 —Core—(1) Hard brownish gray crystalline limestone.
(2) Same.
(3) Hard brownish gray dense limestone.

- 937-45 —Core—Brownish gray crystalline limestone, part oolitic.
- 945-64 —Core—(1) Oolitic brownish gray limestone.
(2) Brownish gray oolitic limestone.
Brachiopod noted.
(3) Same.
- 963-72 —Core—(1) Brownish gray dense limestone.
- 972-86 —Core—(1) Same with shaly lenses. Core shows slickensides.
(2) Brownish gray oolitic and crystalline limestone.
(3) Light gray oolitic limestone.
(4) Same and **Bryozoa**.
- 986-95 —Core—(1) Oolitic and crystalline limestone.
Fossils noted.
(2) Same.
- 995-1016 —Core—(1) Brownish gray crystalline limestone.
Brachiopods in core.
(2) Light brownish gray crystalline limestone.
(3) Light brownish gray oolitic limestone.
Crinoid stems.
- 1016-23 —Core—Light gray oolitic limestone with inclusions.
Crinoid stems.
- 1023-36 —Core—(1) Light gray crystalline limestone.
(2) Same. Core shows fracture.
- 1036-56 —Core—(1) Same.
(2) Light gray very hard chalky limestone.
Impression of shell.
(3) Same.
(4) Dark greenish gray non-calcareous shale with brown inclusions. Core shows slickensides. Pyrite.
(5) Hard medium brownish gray dense limestone.
(6) Gray crystalline limestone.
- 1056-62 —Core—Oolitic and crystalline limestone.
- 1062-74 —Core—(1) Greenish gray shale and brownish gray limestone.
Core shows slickensides.
(2) Same.
(3) Brownish gray crystalline limestone, part oolitic.
(4) Same.
(5) Light gray oolitic limestone.
(6) Same.
- 1074-94 —Core—(1) Same.
(2) Same.
(3) Same.
(4) Same.
(5) Same.
- 1094-1115 —Core—(1) Same.
(2) Brownish gray crystalline limestone.
Brachiopods in core.
(3) Hard dark brownish gray granular limestone.
(4) Greenish gray fossiliferous limestone, part with crystalline calcite.

- (5) Same.
- (6) Same and dark brown granular limestone.
- 1115-32 —Core—(1) Dark brown granular limestone.
- (2) Same with inclusions of crystalline calcite and part of core brownish gray crystalline limestone with **brachiopods**.
- (3) Dark gray impure limestone with crystalline calcite inclusions.
- (4) Dark gray crystalline limestone.
- (5) Dark gray impure limestone with inclusions of crystalline calcite.
- 1132-44 —Core—Same.
- 1144-57 —Core—(1) Medium gray limestone with inclusions of crystalline calcite.
- Brachiopod impressions.
- (2) Same.
- 1157-74 —Core—(2) Light gray crystalline limestone with **Fenestella Bryozoa**.
- Brachiopods.
- (3) Hard medium gray limestone with inclusions of crystalline calcite.
- 1174-94 —Core—(1) Same.
- (2) Hard dark brownish gray granular limestone.
- (3) Brownish gray impure lime with **Fenestella Bryozoa**.
- (4) Same.
- Fenestella Bryozoa.
- Brachiopod.
- 1194-1202 —Core—(1) Gray fossiliferous shale and limestone. Dark brownish gray crystalline limestone with **Fenestella Bryozoa**.
- (2) Dark greenish gray shale with **Archimedes sp. ?**
- (3) Dark gray shale with Archimedes sp., limestone through core.
- 1202-08 —Core—(1) Black fossiliferous shale. Pyrite.
- Bryozoa.
- (2) Black shale and impure limestone. Core shows slickensides.
- (3) Brown and gray granular limestone.
- Several brachiopod species.
- (4) Same.
- 1208-13 —Core—(1) Black shale and limestone showing slickensides.
- (2) Dark brown granular limestone showing slickensides. Part of core, medium gray crystalline limestone.
- 1213-34 —Core—(1) Dark gray impure limestone. Core shows slickensides.
- (2) Same, showing slickensides.
- (3) Same.
- Shell impression in core.
- (4) Same.
- (5) Dark brownish gray crystalline limestone. Crystalline calcite in part of core. Core shows slickensides.
- 1234-44 —Core—Same.
- (2) Black shale and limestone. Core shows slickensides.
- (3) Light gray crystalline limestone.

- 1244-54 —Core—(1) Light gray hard crystalline limestone.
(2) Same. Core shows slickensides.
- 1254-69 —Core—(1) Same.
(2) Same.
(3) Same.
- 1269-73 —Core—(1) Same. Core shows slickensides.
- 1273-82 —Core—(1) Same.
(2) Same.
- 1282-90 —Core—(1) Medium gray crystalline limestone.
(2) Same, with **brachiopod**.
- 1290-1314 —Core—(1) Same.
Cast of a small gastropod.
(2) Same, with gray shale in part of core.
(3) Same.
(4) Dark brown granular limestone with crinoid ? stems.
(5) Medium gray partly oolitic limestone.
(6) Medium gray crystalline limestone with **brachiopod**. Greenish gray shale in part of core.
- 1314-33 —Core—(1) Brownish black fossiliferous shale.
Bryozoa.
(2) Same, with **brachiopod impression**.
- 1333-46 —Core—(1) Brownish gray crystalline limestone.
(2) Dark gray to black impure limestone.
Brachiopod valve.
- 1346-66 —Core—(1) Dark brownish black impure limestone.
(2) Dark brown crystalline limestone with fossils. Small concretions in part of core.
(3) Same.
- 1366-73 —Core—(1) Same with **small gastropod**.
Small crinoid stem.
(2) Dark brownish gray granular limestone, fossiliferous.
Part of brachiopod valve.
Other shell impressions.
(3) Dark gray granular limestone.
- 1373-93 —Core—(1) Brownish gray crystalline limestone.
(2) Medium gray oolitic limestone and crystalline limestone.
(3) Medium gray oolitic, fossiliferous limestone.
Small gastropod and brachiopods.
Crinoid stems.
(4) Black fossiliferous shale.
(5) Dark brown granular limestone with **brachiopod impressions**.
(6) Medium gray oolitic limestone.
(7) Same.
- 1393-1405 —Core—(1) Dark gray impure limestone with inclusions of crystalline calcite.
Impressions of brachiopods.
(2) Black fossiliferous shale.
Archimedes sp.
(3) Gray calcareous shale. Core shows slickensides.

- (4) Dark brownish black fossiliferous shale.
Bryozoa.
- (5) Dark gray granular limestone with **brachiopods** in core. Part of core dark brownish gray, fossiliferous shale. Core shows slickensides.
- (6) Brownish gray crystalline limestone, fossiliferous.
Bryozoa.
- (7) Black fossiliferous shale. Core shows slickensides.
- 1405-21 —Core—(1) Dark gray fossiliferous shale and limestone.
- (2) Black fossiliferous shale. Core shows slickensides.
Brachiopods.
- (3) Light gray crystalline limestone.
Bryozoa.
Brachiopods.
- (4) Dark brown crystalline and granular limestone.
- (5) Dark brownish black granular limestone.
Crinoid stems.
- (6) Same and **Bryozoa**.
- 1421-42 —Core—(1) Same, with **Bryozoa**.
- (2) Dark brown granular limestone with an abundance of **brachiopods**.
- (3) Brown granular, fossiliferous limestone.
Brachiopods.
- (4) Same, with **brachiopods** and **Bryozoa**.
Other shell impressions.
- 1442-52 —Core—(1) Brownish black impure limestone with **brachiopods**.
Core shows slickensides.
- (2) Brownish black sandy limestone.
- (3) Brownish black granular limestone with **Productus sp.**
- (4) Dark brownish black granular limestone.
Brachiopods.
- (5) Dark brownish black limestone with sandstone in part of core.
- (6) Brownish black shale and sandstone. Quartzitic sandstone in part of core.

Hartselle

- (7) Hard brownish black quartzitic sandstone impregnated with asphaltic residue.
- 1452-61 —Core—(1) Light gray medium-grained hard sandstone with fracture surfaces.
- (2) Black shale with light gray medium-grained sand lenses and sandstone.
- (3) Hard medium-grained sandstone with asphaltic residue.
- (4) Same.
- (5) Same.
- 1461-70 —Core—Hard medium-grained gray sandstone with asphaltic residue.

- 1470-81 —Core—(1) Medium-grained sandstone with asphaltic residue. Fractures in core.
(2) Brownish black sandy shale with mica and pyrite; carbonaceous material.
Core shows slickensides.
(3) Brownish black shale and sandy shale with sand lenses. Core shows slickensides.
- 1481-84 —Core—(1) Brownish black sandy shale with mica. Part of core with sand lenses.
(2) Light gray hard sandstone with black shale lenses. Carbonaceous material.
- 1484-91 —Core—(1) Black shale and sandy shale with pyrite and mica.
(2) Light gray hard medium to fine-grained sandstone with black micaceous shale lenses.
- 1491-94 —Core—(1) Same.
- 1494-1500 —Core—(1) Light gray hard fine-grained sandstone with brownish black micaceous shale lenses. Carbonaceous material.
(2) Same.
- 1500-02 —Core—(1) Black sandy micaceous, carbonaceous shale.
(2) Hard light gray fine-grained sandstone with black shale lenses.
(3) Hard light gray medium-grained sandstone with black shale lenses.
- 1502-06 —Core—(1) Dark brownish black carbonaceous, sandy shale with mica.
- 1506-11 —Core—Hard light gray medium-grained sandstone with black shale lenses.
Core shows fractures.
- 1511-18 —Core—(1) Same.
(2) Light gray medium-grained hard sandstone.
- 1518-22 —Core—Same.
- 1522-27 —Core—(1) Same.
- 1527-33 —Core—(1) Same.
(2) Same. Core shows considerable dip. Slickensides.
- 1533-37 —Core—(1) Black micaceous shale with sand lenses. Core shows considerable dip.
(2) Same with carbonaceous material.
(3) Same. Core with about 45 degree dip. Shows slickensides.
(4) Black shale with carbonaceous material.
- 1537-49 —Core—(1) Black carbonaceous, micaceous shale with sand lenses. Pyrite.
(2) Black sandy carbonaceous shale, core with slickensides.
(3) Black micaceous sandy shale.
(4) Black slightly sandy shale with plant fossils in part of core.
(5) Same.
(6) Same.
(7) Same.

Summary

Pennsylvanian	to	764-68'
Pennington	764-68' to	917-24'
Bangor	917-24' to	1442-52'
Hartselle—first sandstone	1442-52' to	1549' T.D.

We had the following cores from the Drummond #1 well tested with Chloroform for the presence of oil, and the following is the result:

No. 1	185' to 267.6'
Sample contained oil.	
No. 2	497' to 507'
Sample contained oil.	
No. 3	541' to 551.6'
Sample contained oil.	
No. 4	1452' to 1462'
Sample contained oil.	
No. 5	1452' to 1462'
Sample contained oil.	

The best oil shows were in samples Nos. 1 and 2.

Pulver's Enterprises, Inc. and B. L. Davis

Paul Freeman #1

NW/4 of SE/4

Sec. 5—T 11 S—R 1 E

Blount County, Ala.

Began March 2, 1950

Completed April, 1950

- 1- 22-Ctgs: Chert, gravel and gray clay.
Crinoid stems.
- 22- 31-Ctgs: Bluish chert and weathered limestone. **Crinoid stems embedded in chert.**

Fort Payne

- 31- 90-Ctgs: Same.
- 90- 95-Ctgs: Dark brownish gray crystalline limestone with chert.
- 95- 100-Ctgs: Same with brown chert.
- 100- 15-Ctgs: Brownish black dense limestone.
- 115- 50-Ctgs: Same.
- 150- 60-Ctgs: Dark brown cherty limestone
- 160- 73-Ctgs: Grayish chert and limestone with fine glauconite.
- 173- 80-Ctgs: Greenish shale with pyrite.

Prob. Maury

- 180- 85-Ctgs: Brownish black shale with pyrite.

Chattanooga Shale

- 185- 90-Ctgs: Black shale with pyrite, part very fine.
 190- 200-Ctgs: Same
 200- 15-Ctgs: Black shale, coarse rounded sand grains, frag. of hard sandstone; greenish sandy lime with pyrite.

Silurian

- 215- 20-Ctgs: Gray to greenish sandy lime.
 220- 45-Ctgs: Same.
 245- 60-Ctgs: Same and sandy shale with fine mica.
 260- 70-Ctgs: Medium gray sandy lime.
 Fossils noted.
 270- 85-Ctgs: Dark gray lime with small black inclusions and greenish sandy lime. Frag. **fossils**. Phosphatic casts of very small **gastropods**.

Prob. Ordovician

- 285- 95-Ctgs: Medium gray finely granular limestone, slightly fossiliferous.
 295- 305-Ctgs: Same and light gray limestone, fossiliferous.
 305- 20-Ctgs: Greenish finely granular limestone.
 320- 30-Ctgs: Light and dark gray limestone, part granular, fossiliferous.
 330- 40-Ctgs: Light and dark gray limestone.
 340- 60-Ctgs: Same.
 360- 65-Ctgs: Light and dark gray to black limestone.
 365- 70-Ctgs: Gray granular limestone.
 370- 80-Ctgs: Same and greenish granular limestone.
 380- 85-Ctgs: Brownish gray limestone with black phosphatic inclusions and greenish granular limestone.
 385- 95-Ctgs: Same with brown crystalline and granular limestone, fossiliferous.
 395- 400-Ctgs: Grayish brown granular limestone.
 400- 05-Ctgs: Same.
 405- 10-Ctgs: Same and light gray dense limestone.
 410- 15-Ctgs: Light brown dense and granular limestone, greenish granular limestone.
 415- 20-Ctgs: Same.
 420- 25-Ctgs: Brown stained finely granular limestone and green and gray bentonitic ? shale with mica.
 425- 30-Ctgs: Same with less shale.
 430- 35-Ctgs: Same with greenish bentonitic shale.
 435- 40-Ctgs: Same with light gray crystalline limestone.
 440- 45-Ctgs: Light gray granular limestone, green and gray bentonitic shale.
 445- 50-Ctgs: Same, fossiliferous and slightly cherty.
 450- 55-Ctgs: Same with brown and light brown limestone, part granular.

- 455- 60-Ctgs: Light brown granular limestone and green bentonitic shale.
460- 65-Ctgs: Same with brown dense limestone and vivid green bentonitic shale with mica.
465- 70-Ctgs: Same with brown granular limestone.

468—Distinct oil show with Chloroform test.

- 465- 70-Ctgs: Same with brown granular limestone.
470- 75-Ctgs: Brown and gray granular limestone and greenish gray bentonitic shale.
475- 85-Ctgs: Gray granular limestone or dolomite.
485- 90-Ctgs: Same with considerable brown mica, associated with the green shale.
490- 515-Ctgs: Same.
515- 30-Ctgs: Same with light gray limestone.
535- 45-Ctgs: Same with light gray and brown limestone.
545- 50-Ctgs: Same with light gray and brown limestone, crystalline calcite.
550- 60-Ctgs: Gray finely granular limestone or dolomite.
560- 75-Ctgs: Same with gray dense limestone, fossiliferous.
575- 80-Ctgs: Brownish gray limestone, part cherty.
580- 85-Ctgs: Brownish gray cherty limestone.
585- 95-Ctgs: Light and medium gray dense limestone.
595- 600-Ctgs: Light gray dense limestone.
600- 05-Ctgs: Medium brownish gray dense cherty limestone.
605- 10-Ctgs: Medium brownish gray dense limestone, cherty ?
610- 20-Ctgs: Brownish gray dense limestone.
620- 25-Ctgs: Brownish gray very finely oolitic limestone.
625- 30-Ctgs: Brownish granular and dense limestone.
630- 35-Ctgs: Light brown limestone.
635- 40-Ctgs: Light gray finely crystalline limestone.
640- 60-Ctgs: Light gray to buff-colored crystalline limestone.
660- 65-Ctgs: Light gray crystalline limestone.
665- 70-Ctgs: Same.
670- 75-Ctgs: Brownish gray limestone.
675- 85-Ctgs: Same.
685- 90-Ctgs: Bluish gray cherty limestone.
690- 95-Ctgs: Brownish gray crystalline limestone.
695- 700-Ctgs: Same.
700- 10-Ctgs: Brown granular and dense limestone.
710- 25-Ctgs: Brown finely granular limestone.
730- 35-Ctgs: Same and brown crystalline limestone.
735- 39-Ctgs: Brown crystalline limestone, fossiliferous.
739- 50-Ctgs: Light and medium gray limestone, part finely granular. Brachiopod frag.
750- 60-Ctgs: Brownish gray crystalline limestone. Brachiopod frag.

760-	65-Ctgs:	Dark brownish gray finely granular limestone and dense limestone. Brachiopods.
765-	75-Ctgs:	Same.
775-	80-Ctgs:	Same with brachiopod and coral frag.
780-	85-Ctgs:	Brown dense limestone.
785-	90-Ctgs:	Brownish gray dense limestone.
790-	805-Ctgs:	Same.
805-	10-Ctgs:	Same with brown granular limestone.
810-	15-Ctgs:	Same with fine pyrite noted.
815-	20-Ctgs:	Brown dense limestone.
820-	25-Ctgs:	Grayish brown limestone and very dark brownish limestone.
825-	30-Ctgs:	Same.
830-	35-Ctgs:	Brown dense limestone.
835-	50-Ctgs:	Same and black shaly lime.
850-	55-Ctgs:	Light grayish dense limestone.
855-	60-Ctgs:	Brown dense limestone, cherty ?
860-	65-Ctgs:	Brown dense limestone.
865-	70-Ctgs:	Grayish brown dense limestone.

Summary

Fort Payne	at.....	22'
Prob. Maury	at.....	173-80'
Chattanooga Shale	at.....	180'
Silurian	at.....	200-15'
Prob. Ordovician	at.....	270'
In Ordovician	at.....	870' T.D.

Ben Stein

Ibson Littleton #1

Cor. NW/4 of NE/4

Sec. 4—T 11 S—R 1 E

Blount County, Ala.

Completed January 29, 1952

30-	35-Ctgs:	Gray sandy lime. Brachiopod frag.
35-	40-Ctgs:	Same.
40-	45-Ctgs:	Gray sandy lime, fossiliferous.
45-	50-Ctgs:	Dark gray lime.
50-	55-Ctgs:	Same.
55-	60-Ctgs:	Dark gray limestone.
60-	65-Ctgs:	Dark gray limestone with small black inclusions, fossiliferous.

Ordovician

- 65- 80-Ctgs: Same .
80- 85-Ctgs: Brownish black and gray lime with small black inclusions, fossiliferous.
85- 125-Ctgs: Same.
125- 30-Ctgs: Dark gray and greenish lime.
130- 40-Ctgs: Same.
140- 45-Ctgs: Brown chert and dark brown cherty limestone, fossiliferous.
145- 50-Ctgs: Dark brownish gray limestone.
150- 55-Ctgs: Dark brown finely granular limestone.
155- 60-Ctgs: Light gray dense limestone.
160- 65-Ctgs: Gray granular limestone with fine dark inclusions.
165- 70-Ctgs: Same.
170- 75-Ctgs: Greenish gray finely granular limestone.
175- 80-Ctgs: Same and frag. of green shale.
180- 85-Ctgs: Same.
185- 90-Ctgs: Same and light gray finely crystalline limestone.
190- 95-Ctgs: Light slightly greenish gray soft bentonitic shale.
195- 200-Ctgs: Green and gray soft bentonitic shale frag. and light brownish gray crystalline limestone.
200- 05-Ctgs: Same.
205- 10-Ctgs: Brown crystalline limestone and brown cherty limestone
210- 15-Ctgs: Brown dense limestone.
215- 20-Ctgs: Greenish gray finely granular limestone.
220- 25-Ctgs: Same, dolomitic ?
225- 30-Ctgs: Same.
230- 35-Ctgs: Greenish gray dolomitic ? limestone.
235- 40-Ctgs: Brownish gray finely granular dolomitic ? limestone.
240- 60-Ctgs: Same.
260- 65-Ctgs: Brownish gray crystalline limestone.
265- 70-Ctgs: Brownish gray finely granular limestone.
270- 75-Ctgs: Same.
275- 80-Ctgs: Same and gray finely granular limestone.
280- 85-Ctgs: Gray finely granular limestone.
285- 90-Ctgs: Same and brownish gray granular limestone.
290- 95-Ctgs: Same with more brownish gray limestone.
295- 300-Ctgs: Brownish gray crystalline limestone.
300- 05-Ctgs: Same and dense limestone.
305- 20-Ctgs: Same.
320- 25-Ctgs: Buff-colored crystalline and finely oolitic limestone.
325- 40-Ctgs: Same.
340- 45-Ctgs: Same with more brown limestone.
345- 50-Ctgs: Brown granular and dense limestone.
350- 55-Ctgs: Same and finely oolitic limestone.
355- 60-Ctgs: Same.
360- 65-Ctgs: Buff-colored oolitic limestone.
365- 70-Ctgs: Brown crystalline limestone. "Water Sand"—noted on bag.

- 370- 75-Ctgs: Buff-colored finely granular limestone.
 378- 85-Ctgs: Buff-colored finely granular limestone.
 385- 90-Ctgs: Same, dolomitic ?
 390- 95-Ctgs: Same.
 395- 400-Ctgs: Brown crystalline limestone.
 400- 05-Ctgs: Same.
 405- 10-Ctgs: Brown crystalline limestone.
 410- 15-Ctgs: Same.
 415- 20-Ctgs: Brownish gray finely granular and dense limestone.
 420- 25-Ctgs: Brown finely granular limestone.
 420- 40-Ctgs: Same.
 440- 45-Ctgs: Gray crystalline and finely granular limestone.
 445- 50-Ctgs: Dark brownish gray dense limestone.
 450- 55-Ctgs: Same with shaly lime.
 455- 60-Ctgs: Light gray and black crystalline limestone, fossiliferous.
 Brachiopod frag.
 460- 65-Ctgs: Same and shaly lime.
 465- 70-Ctgs: Brownish black dense limestone.
 470- 85-Ctgs: Same.
 485- 90-Ctgs: Brownish black to gray dense limestone.
 490- 95-Ctgs: Same, fossiliferous.
 495- 500-Ctgs: Same.
 500- 05-Ctgs: Same and granular limestone.
 505- 10-Ctgs: Brown and buff-colored finely granular and dense limestone, fossiliferous.
 510- 20-Ctgs: Same.
 525- 30-Ctgs: Brown dense and crystalline limestone.
 530- 35-Ctgs: Brown and buff-colored dense limestone.
 535- 40-Ctgs: Same.
 Ostracods noted.
 540- 45-Ctgs: Same.
 545- 50-Ctgs: Brown dense limestone.
 550- 55-Ctgs: Same.
 555- 60-Ctgs: Brown dense limestone.
 560- 65-Ctgs: Same and gray dense limestone.
 565- 90-Ctgs: Same.
 590- 95-Ctgs: Gray to black dense lime.
 595- 600-Ctgs: Gray dense limestone.
 600- 05-Ctgs: Same.
 605- 10-Ctgs: Greenish gray dense and finely granular limestone.
 610- 15-Ctgs: Greenish gray dense limestone.
 615- 35-Ctgs: Same.
 635- 40-Ctgs: Same with greenish finely granular limestone.

Ordovician

- 640- 45-Ctgs: Gray and greenish dense and finely granular limestone.
 645- 50-Ctgs: Same.
 650- 55-Ctgs: Same. Pyrite.
 Ostracods noted.

655-	75-Ctgs:	Same.
675-	80-Ctgs:	Light greenish gray finely granular dolomite.
680-	85-Ctgs:	Same.
685-	95-Ctgs:	Same and limestone.
695-	700-Ctgs:	Same, much harder.
700-	05-Ctgs:	Same. Greenish shale noted.
705-	10-Ctgs:	Same.
710-	15-Ctgs:	Greenish and light gray fine-grained dolomite.
715-	25-Ctgs:	Same.
725-	40-Ctgs:	Light gray dense limestone and fine-grained dolomite.
730-	60-Ctgs:	Same.
740-	60-Ctgs:	Light gray dense limestone.
760-	65-Ctgs:	Light gray dense cherty limestone and dolomite. Conglomerate frag.
Knox ?		Oolitic chert.
765-	70-Ctgs:	Same. Rounded frosted sand grains.
770-	75-Ctgs:	Light gray dolomite and green soft shale.
775-	80-Ctgs:	Same fine-grained.
780-	90-Ctgs:	Same.
790-	95-Ctgs:	Buff-colored fine-grained dolomite and bluish chert.
795-	800-Ctgs:	Light gray dense limestone; and bluish white chert.
800-	05-Ctgs:	Gray dense limestone. Conglomerate frag.
805-	10-Ctgs:	Same.
810-	15-Ctgs:	Light gray dense limestone and green shale and rounded frosted sand grains. Pyrite noted and very fine-grained pyrite in the green shale.
815-	20-Ctgs:	Same with gray and bluish chert. Rounded frosted sand grains.
820-	25-Ctgs:	Light gray dolomite and light gray dense limestone.
825-	30-Ctgs:	Gray dense cherty limestone.
830-	35-Ctgs:	Same with occasional sand grains.
835-	40-Ctgs:	Light gray dense limestone.
840-	50-Ctgs:	Same.
850-	55-Ctgs:	Greenish gray dense limestone and greenish shale.
855-	60-Ctgs:	Light gray limestone with green shale.
860-	65-Ctgs:	Light gray dense limestone and chert and pink and gray dolomite.

Summary

Ordovician at 60-65'

Knox ? at 760-65'

Ben Stein
B. M. Carr #1
Center SE/4 of NW/4
Sec. 5—T 11 S—R 1 E
Blount County, Ala.
Began March 2, 1952

- 95- 134-Ctgs: Chert and cherty limestone, part weathered. **Crinoid stems.** Brown crystalline limestone.

Fort Payne

- 134- 47-Ctgs: Gray weathered chert.
147- 61-Ctgs: Same.
161- 65-Ctgs: Light and dark gray chert and cherty limestone.
165- 75-Ctgs: Same.
175- 80-Ctgs: Bluish chert and cherty limestone.
180- 225-Ctgs: Same.
225- 30-Ctgs: Same with smoky chert.
230- 45-Ctgs: Same.
245- 50-Ctgs: Same with slightly brownish cherty limestone.
250- 55-Ctgs: Gray and bluish chert and cherty limestone.
260- 65-Ctgs: Gray chert and cherty limestone.
265- 70-Ctgs: Gray and smoky chert.
270- 75-Ctgs: Smoky chert and cherty limestone.
275- 80-Ctgs: Same.
280- 85-Ctgs: Dark brownish gray cherty limestone.
285- 95-Ctgs: Same.
295- 300-Ctgs: Black shale with pyrite inclusions and green shale with pyrite inclusions.

Chattanooga Shale

- 300- 05-Ctgs: Black dense shale with pyrite.
305- 15-Ctgs: Black dense shale.
315- 20-Ctgs: Black dense shale with fine pyrite, and hard fine-grained sandstone.
320- 25-Ctgs: Same.
325- 30-Ctgs: Same and sandstone. Large rounded sand grains noted.
330- 35-Ctgs: Greenish shale and sandy lime and fine-grained sandstone. Pyrite.

Silurian

- 335- 40-Ctgs: Fine-grained sandstone and greenish sandy lime and greenish shale. Fine pyrite inclusions.
340- 45-Ctgs: Gray and greenish sandy lime. Small green inclusions noted.
345- 65-Ctgs: Same.
365- 70-Ctgs: Same with more shale.
370- 75-Ctgs: Same, darker and more dense.

- 375- 85-Ctgs: Same.
385- 90-Ctgs: Greenish sandstone and sandy lime and sand. Part of sand grains well rounded.
390- 95-Ctgs: Same and gray limestone with black inclusions.

Ordovician

- 395- 400-Ctgs: Gray limestone with small black phosphatic inclusions.
400- 05-Ctgs: Same.
405- 10-Ctgs: Dark gray dense and crystalline limestone.
410- 15-Ctgs: Same. Small black inclusions noted.
415- 20-Ctgs: Same.
420- 25-Ctgs: Same with shale.
425- 30-Ctgs: Same, fossiliferous
430- 35-Ctgs: Same.
Corals noted.
435- 40-Ctgs: Dark and light gray limestone, very fossiliferous. Small black inclusions noted.
440- 55-Ctgs: Same.
455- 60-Ctgs: Dark and light gray limestone with small black inclusions.
460- 80-Ctgs: Same.
480- 85-Ctgs: Greenish finely granular limestone.
485- 90-Ctgs: Same.
490- 95-Ctgs: Greenish and gray finely granular limestone and shaly lime.
495- 505-Ctgs: Same.
505- 10-Ctgs: Brownish gray limestone.
510- 15-Ctgs: Same.
515- 20-Ctgs: Greenish gray finely granular limestone.
520- 25-Ctgs: Gray cherty limestone.
525- 30-Ctgs: Same.
530- 35-Ctgs: Brownish gray dense and finely granular limestone.
540- 45-Ctgs: Gray finely granular limestone.
545- 50-Ctgs: Same.
550- 55-Ctgs: Light brownish gray crystalline limestone and green soft bentonitic ? shale.
555- 60-Ctgs: Same.
560- 65-Ctgs: Light brown finely granular limestone.
565- 70-Ctgs: Light brown crystalline limestone, fossiliferous.
570- 75-Ctgs: Same and finely granular limestone.
575- 80-Ctgs: Light brown finely granular limestone and green bentonitic shale with brown mica flakes.
580- 85-Ctgs: Same with more green shale.
585- 610-Ctgs: Same.
610- 15-Ctgs: Buff-colored finely granular limestone and green bentonitic shale.
615- 20-Ctgs: Same and brown finely granular limestone.
620- 25-Ctgs: Grayish brown finely granular limestone.
630- 35-Ctgs: Same and green soft shale.
635- 40-Ctgs: Same.

- 640- 45-Ctgs: Brown finely granular limestone.
 645- 70-Ctgs: Same.
 670- 75-Ctgs: Brownish gray finely granular limestone.
 675- 80-Ctgs: Brown granular and crystalline limestone.
 680- 85-Ctgs: Brown granular limestone and green shale. Sand as in-
 clusions ? in green shale.
 685- 95-Ctgs: Same.
 695- 700-Ctgs: Brown dense limestone.
 700- 05-Ctgs: Brown dense and crystalline limestone.
 705- 10-Ctgs: Same with more dense limestone.
 710- 15-Ctgs: Brown dense limestone.
 715- 20-Ctgs: Buff-colored finely granular limestone.
 720- 25-Ctgs: Brown dense and finely granular limestone.
 725- 30-Ctgs: Brownish gray finely granular limestone.
 730- 35-Ctgs: Brown dense and crystalline limestone.
 735- 65-Ctgs: Same.
 765- 70-Ctgs: Same with slightly oolitic limestone.
 770- 75-Ctgs: Same.
 775- 80-Ctgs: Brown crystalline limestone.
 780- 90-Ctgs: Same.
 790- 95-Ctgs: Light brown crystalline limestone.
 795- 800-Ctgs: Same.
 800- 05-Ctgs: Brownish gray finely granular limestone.
 805- 25-Ctgs: Same.
 830- 40-Ctgs: Same.
 840- 45-Ctgs: Brown crystalline limestone.
 845- 50-Ctgs: Brownish gray dense and crystalline limestone, fossilif-
 erous.
 Brachiopods.
 Corals.
 850- 55-Ctgs: Dark and light gray fossiliferous limestone.
 Bryozoa.
 855- 60-Ctgs: Dark gray to black and light gray limestone, very fossil-
 iferous.
 860- 65-Ctgs: Same.
 865- 70-Ctgs: Same with dark brownish gray dense limestone.
 870- 75-Ctgs: Dark brownish gray dense limestone.
 875- 925-Ctgs: Same.
 925- 30-Ctgs: Gray finely granular limestone.
 930- 35-Ctgs: Dark brownish gray dense limestone.
 935- 40-Ctgs: Same.
 940- 45-Ctgs: Dark gray dense limestone.
 945- 50-Ctgs: Dark brownish gray dense limestone.
 950- 65-Ctgs: Same.
 965- 70-Ctgs: Greenish gray dense limestone.
 970- 75-Ctgs: Dark brownish gray dense limestone.
 975-1000-Ctgs: Same.
 1005- 10-Ctgs: Brownish gray dense limestone and slightly greenish
 finely granular limestone.

Black River

- 1000- 15-Ctgs: Same.
 1025- 30-Ctgs: Gray dense limestone.
 1035-Ctgs: Light gray fine-grained dolomite and chert. Dull green shale with fine pyrite.
 1037½-Ctgs: Same.
 1040-Ctgs: Gray dense limestone with greenish shale.
 1045-Ctgs: Gray dense and finely granular limestone. Vivid green shale.
 1050-Ctgs: Gray dense limestone and greenish finely granular limestone.
 1055-Ctgs: Same and very greenish finely granular limestone.
 1060-Ctgs: Gray and greenish dense and finely granular limestone.
 1065-Ctgs: Same.
 1070-Ctgs: Gray dense limestone.
 Ostracods.
 1075- 80-Ctgs: Same.
 1085-Ctgs: Same and finely granular limestone.
 1090-Ctgs: Same.
 1095-Ctgs: Light gray fine-grained dolomite.
 1100-Ctgs: Same and light gray dense limestone.
 1105-Ctgs: Gray and greenish finely granular limestone.
 1110- 15-Ctgs: Same.
 1120-Ctgs: White chert, frag. of light gray limestone and brown dolomite.

Summary

Fort Payne	to	295-300'
Chattanooga Shale	295-300' to	330-35'
Silurian	330-35' to	390-95'
Ordovician	at	390-95'
Possible Knox	at	1120'

COLBERT COUNTY

Mellen and Gear
 Mrs. W. B. Alsobrook #1
 S/2 of SW/4 of NW/4
 Sec. 10— T4 S—R 15 W
 Colbert County, Alabama
 Elev. 515' D. F.
 Began: August 16, 1940
 Comp.: March 31, 1941

- 7.5- 11-Ctgs: Gray crystalline limestone.
 Crinoid stems noted.
 Brachiopod.
 11- 14-Ctgs: Same and milky chert.
 Brachiopods and Crinoid stems.

Tuscumbia

- 14-18½-Ctgs: Cream-colored crystalline limestone with **crinoid stems**.
Corals. Milky chert. Part of limestone oolitic.
 Endothyra sp.
 18½- 22-Ctgs: Same, but with some brown limestone, prob. stained brown. Limestone carrying **Bryozoa**. Milky and cream-colored chert.
 Endothyra and crinoid stems.
 23- 25-Ctgs: Brownish gray limestone, part with pyrite. White chert.
 Cream-colored crystalline limestone.
 Ostracods.
 Crinoid stems.
 25- 28-Ctgs: Same. Part of limestone with brown stain, fossiliferous.
 28- 31-Ctgs: Light gray limestone, fossiliferous.
 Corals.
 Fenestella Bryozoa.
 31- 34-Ctgs: Same, and brown stained limestone.
 34- 36-Ctgs: White crystalline limestone, fossiliferous, part of limestone slightly stained brown.
 36- 41-Ctgs: Same with milky and bluish chert.
 41- 46-Ctgs: Gray dense limestone, bluish-tinged chert with brownish limestone.
 47½- 53-Ctgs: Brown stained impure limestone; cream-colored, milky and blue chert.
 53- 58-Ctgs: Same, but with less chert.
 58- 63-Ctgs: Same, with white limestone and chert.
 Fenestella Bryozoa.
 Other Bryozoa.
 63- 67-Ctgs: White and cream-colored limestone and chert; some brown-stained limestone.

- 67- 71-Ctgs: Same with more brown-stained limestone. Brownish crystalline limestone.
- 71- 75-Ctgs: Same.
- 75- 80-Ctgs: White and cream-colored crystalline limestone stained brown, fossilif.
- 80- 85-Ctgs: Same. Chert noted.
- 85- 92-Ctgs: Same and white chert. Buff-colored crystalline limestone.
- 92- 97-Ctgs: White chert and cream-colored crystalline limestone.
- 97- 101-Ctgs: Same.
- 101- 06-Ctgs: Same with brown stained limestone. **Bryozoa**. Milky chert with oolitic appearance.
- 106- 11-Ctgs: Same.
- 111- 15-Ctgs: Same with more chert and brown-stained limestone.
- 115- 22-Ctgs: Same.
- 122- 27-Ctgs: Medium brownish gray crystalline fossiliferous limestone and chert with asphaltic ? residue.
Fenestella Bryozoa noted.
- 127- 30-Ctgs: Same.
- 130- 34-Ctgs: Lght grayish brown crystalline limestone with asphaltic ? residue.
Chert.
- 134- 39-Ctgs: Brown stained limestone. **Fenestella Bryozoa**. Milky chert.
- 139- 45-Ctgs: Same with asphaltic ? residue in cavities.
- 145- 50-Ctgs: Same.
- 150- 55-Ctgs: Same and light brownish gray limestone; cherty limestone.
- 155- 60-Ctgs: Light gray crystalline limestone, part stained brown, fossiliferous.
- 160- 64-Ctgs: Same.
- 164- 69-Ctgs: Same and impure limestone with brown stain.
- 169- 74-Ctgs: Light gray crystalline limestone, part stained brown; bluish gray chert and cherty limestone.
- 174- 79-Ctgs: Same with asphaltic residue.
- 179- 84-Ctgs: Same. Limestone fossiliferous. White chert.
- 184- 90-Ctgs: Same with asphaltic residue. Milky chert.
Fenestella Bryozoa.
- 190- 210-Ctgs: Same.
- 210- 14-Ctgs: Light grayish brown limestone; dark brown limestone.
Cherty limestone.
- 214- 29-Ctgs: Same.
- 229- 34-Ctgs: Gray crystalline limestone and chert, part stained brown.
- 234- 38-Ctgs: Brownish gray limestone and cherty limestone, part stained brown.
- 238- 42-Ctgs: Same.
- 242- 45-Ctgs: Drab-colored crystalline limestone and chert; part of limestone with pin point staining and dark inclusions.
- 245- 59-Ctgs: Same.
- 259- 63-Ctgs: Same and bluish chert and crystalline calcite.
- 266- 72-Ctgs: Dense grayish limestone and chert.

- 272- 77-Ctgs: Bluish chert and cherty limestone; light grayish brown limestone, part stained brown.

Fort Payne

- 277- 80-Ctgs: Same.
 280- 84-Ctgs: Same. Brown chert noted. Crystalline calcite. Frag. of black shale.
 284- 89-Ctgs: Brown chert, brown limestone, frag. of black shale.
 289- 99-Ctgs: Same.
 299- 304-Ctgs: Same and bluish chert.
 304- 07-Ctgs: Same and brown granular limestone.
 307- 34-Ctgs: Same.
 334- 37-Ctgs: Same and black shale frag.
 337- 52-Ctgs: Same.
 352- 56-Ctgs: Dark brown chert and light and dark brown limestone.
 356- 59-Ctgs: Same.
 359- 63-Ctgs: Same and black shale frag. noted.
 363- 71-Ctgs: Same.
 371- 75-Ctgs: Dark grayish brown limestone with pyrite. Chert noted.
 375- 99-Ctgs: Same.
 399- 402-Ctgs: Same, but somewhat darker.
 402- 16-Ctgs: Same.
 416- 20-Ctgs: Brownish black fine-gr. limestone.
 420- 36-Ctgs: Same.
 436- 41-Ctgs: Brownish black fine-grained limestone, part glauconitic; light greenish gray hard sandy clay with pyrite, slightly calcareous. **Crinoid stems** replaced by pyrite.

Maury Shale

- 441- 44-Ctgs: Light greenish gray hard sandy clay with black inclusions and pyrite; black shale frag.

Chattanooga Shale

- 444- 46-Ctgs: Same and brown quartzitic sandstone; brownish black shale.
 446- 48-Ctgs: Same with more quartzitic sandstone; black shale and sandy shale.
 448- 50-Ctgs: Same.
 450- 52-Ctgs: Same. Pyrite.
 452- 55-Ctgs: Same.
 455- 56-Ctgs: Same. **Spores** noted in black shale.

Chattanooga Shale

- 456- 58-Ctgs: Black shale frag.; light greenish gray limestone; chert and calcareous clay. **Ostracods** in limestone.
 458- 61-Ctgs: Greenish gray lime and chert; part with glauconite; fossiliferous. Pyrite.
 461- 64-Ctgs: Same, and greenish gray shaly lime. **Ostracods.**

- 464- 68-Ctgs: Light gray glau. cherty limestone. Considerable pyrite in limestone.
Chert.
Brachiopods.
Ostracods.
- 468- 72-Ctgs: Same with more chert.
- 472- 76-Ctgs: Gray cherty limestone.
- 476- 79-Ctgs: Gray limestone.
- 479- 82-Ctgs: Gray limestone.
- 482- 504-Ctgs: Same.
- 504- 09-Ctgs: Same. Chert noted.
- 509- 15-Ctgs: Same.
- 515- 18-Ctgs: Same and gray shaly lime.
- 518- 22-Ctgs: Same. Chert noted.
- 522- 26-Ctgs: Same, fossiliferous.
- 526- 30-Ctgs: Same.
- 530- 34-Ctgs: Same. Milky chert noted.
- 534- 44-Ctgs: Same.
- 544- 48-Ctgs: Light greenish gray finely crystalline limestone.
- 548- 53-Ctgs: Same.
- 553- 58-Ctgs: Same and medium greenish gray shaly lime.
- 558- 650-Ctgs: Same.
- 650- 57-Ctgs: Same, fossiliferous.
- 657- 67-Ctgs: Same.
- 667- 73-Ctgs: Same.
Crinoid stems.
Brachiopod frag.
- 673-75½-Ctgs: Same and green very fossiliferous shaly lime.
Ostracods.
Brachiopods.
- 675½- 81-Ctgs: Same. Pyrite.
- 681- 87-Ctgs: Same.
Crinoid stems.
- 687- 94-Ctgs: Pink-tinged white and gray coarsely crystalline limestone.

Silurian

- 694- 700-Ctgs: Same.
- 700- 06-Ctgs: Dark red and pink limestone; light gray and green limestone.
Small brachiopod.
Ostracods.
Crinoid stems.
- 706- 12-Ctgs: Same.
- 712- 17-Ctgs: Same, and purplish and green shale.
Brachiopod impressions.
- 717- 21-Ctgs: Same.
- 721- 26-Ctgs: Dark red and pink limestone, light green and gray limestone, fossilif.

- 726- 31-Ctgs: Pink crystalline limestone with light green limestone and shaly lime.
Pyrite present in limestone.
Brachiopods.
- 731- 42-Ctgs: Same.
- 742- 50-Ctgs: Same with light gray dense limestone and less pink limestone.
- 750- 55-Ctgs: Same.
Brachiopods.
- 755- 61-Ctgs: Dark red, pink and light gray limestone; green shaly lime.
- 761- 73-Ctgs: Same.
- 773- 79-Ctgs: Pink, gray and greenish gray limestone, frag. of dark red limestone.
- 779- 85-Ctgs: Same.
- 785- 90-Ctgs: Dark red and purple crystalline limestone, greenish gray limestone.
- 790- 95-Ctgs: Purple non-calcareous shale; pink, red and greenish limestone.
Dark green concretionary material enclosed in dark red and green shale.
Part of limestone coarsely crystalline.

Silurian

- 795- 800-Ctgs: Black shaly phosphatic material with light gray coarsely crystalline limestone with pyrite inclusions. Green shale frag.

Ordovician-Trenton

- 800- 06-Ctgs: Black very phosphatic shale and limestone, part fossiliferous.
- 806- 12-Ctgs: Same.
- 812- 18-Ctgs: Same and dull gray chert with phosphatic inclusions.
Corals noted in shaly phosphatic lime.
- 818- 24-Ctgs: Dark brownish gray limestone, phosphatic limestone, dull gray chert with inclusions, dark gray shaly lime, fossiliferous.
- 824- 30-Ctgs: Dark gray slightly calcareous shale, partly fossiliferous; limestone frag.
- 830- 32-Ctgs: Same and dark gray shaly lime, fossiliferous.
- 832- 44-Ctgs: Same.
- 844- 50-Ctgs: Same. Pyrite. Mica noted in dark gray shale.
- 856- 62-Ctgs: Same.
- 862- 68-Ctgs: Same with more lime.
- 868- 74-Ctgs: Same. Part of limestone carrying phosphatic ? nodules.
- 874- 86-Ctgs: Same.
- 886- 93-Ctgs: Same with pyrite.
- 893- 900-Ctgs: Same.
- 900- 07-Ctgs: Same with part of shale more phosphatic. Some light gray limestone.

- 907- 13-Ctgs: Same.
913- 19-Ctgs: Same and brownish gray crystalline limestone.
919- 30-Ctgs: Same.
930- 36-Ctgs: Same with more brownish gray crystalline limestone.
936- 42-Ctgs: Same and dark gray shaly lime. Crystalline calcite.
942- 72-Ctgs: Same.
972- 78-Ctgs: Same with veins of crystalline calcite in brownish gray limestone.
978- 83-Ctgs: Same.
983- 89-Ctgs: Same with more dark gray to black shale.
989- 96-Ctgs: Same. Part of shale with phosphatic nodules and pyrite.
996-1001-Ctgs: Same. Dark brown crystalline limestone, part with phosphatic nodules.
1001- 08-Ctgs: Same.
1008- 14-Ctgs: More dark brown crystalline limestone and less dark gray shale.
1114- 18-Ctgs: Same.

Ordovician

- 1018- 24-Ctgs: Light gray dense limestone, light brown dense limestone.

Ordovician-Black River

- 1024- 28-Ctgs: Light brown dense and granular limestone, frag. of brown sucrose ? limestone.
1028- 31-Ctgs: Same. Part of limestone with slight brownish stain.
1031- 35-Ctgs: Same with small amount of light brown chert.
1035- 42-Ctgs: Same with light and dark brown chert.
1042-47½-Ctgs: Medium and light brown crystalline fossiliferous Limestone, brown chert.

Ordovician

- 1047- 53-Ctgs: Light brown limestone and chert.
1053- 56-Ctgs: Same with increasing amount of chert.
1056- 62-Ctgs: Light brown crystalline limestone.
1062- 68-Ctgs: Brown crystalline limestone and chert.
Shell frag.
1068- 74-Ctgs: Same.
1074- 80-Ctgs: Brown crystalline limestone and chert.
Ostracods.
1075- 79-Ctgs: Same.
1080- 85-Ctgs: Same and **shell impressions** noted.
1085- 95-Ctgs: Same.
1095-1100-Ctgs: Same and brown granular limestone.
Shell frag.
1100- 06-Ctgs: Same and chert.
1106- 31-Ctgs: Same.
1131- 37-Ctgs: Light brown dense limestone.
Ostracods.
Other shells noted.

- 1137- 43-Ctgs: Same and granular limestone noted.
Shell frag.
Corals.
- 1143- 50-Ctgs: Same.
- 1150- 56-Ctgs: Same.
Small brachiopods.
Bryozoa.
Coral frag.
- 1156- 61-Ctgs: Light brown crystalline limestone.
- 1161- 74-Ctgs: Same.
- 1174- 81-Ctgs: Gray and brown crystalline limestone.
- 1181- 87-Ctgs: Same.
- 1187- 94-Ctgs: Slightly greenish gray crystalline and granular limestone.
Brachiopod frag. and crinoid stems.
- 1194-1200-Ctgs: Light brown and greenish gray limestone.
- 1200- 06-Ctgs: Light brown crystalline limestone.
- 1206- 12-Ctgs: Light brown very coarsely crystalline limestone, very fossiliferous.
Coral frag.
Bryozoa.
Ostracods.
- 1212- 18-Ctgs: Same and greenish gray lime with **brachiopods**.
- 1218- 25-Ctgs: Light brown dense limestone with crystalline calcite.
- 1225- 52-Ctgs: Same.
- 1252- 59-Ctgs: Same and crystalline limestone.
- 1259- 65-Ctgs: Same and medium brown dense limestone.
- 1265- 71-Ctgs: Medium brown and grayish brown dense limestone.
- 1271- 78-Ctgs: Same with granular limestone.
- 1278- 90-Ctgs: Same.
- 1290- 97-Ctgs: Dark grayish brown dense and granular limestone.
- 1297-1303-Ctgs: Same and medium grayish brown limestone.
- 1303- 09-Ctgs: Same.
- 1309- 15-Ctgs: Same.
Ostracods noted.
- 1315- 30-Ctgs: Same.
- 1330- 37-Ctgs: Light grayish brown dense limestone.
- 1337- 43-Ctgs: Same and frag. of reddish brown limestone.
- 1343- 50-Ctgs: Same.
- 1350- 56-Ctgs: Brown dense limestone.
- 1356- 62-Ctgs: Grayish brown dense limestone.
- 1362- 75-Ctgs: Same.
- 1375- 81-Ctgs: Same and slightly greenish limestone.
- 1381- 88-Ctgs: Dark brown and grayish dense limestone.
- 1388- 97-Ctgs: Same and granular limestone.
- 1397-1404-Ctgs: Brown and greenish gray dense limestone.
- 1404- 11-Ctgs: Same.
- 1411- 19-Ctgs: Brown and gray dense limestone.
- 1419- 25-Ctgs: Same, part of limestone granular.
Ostracods noted.
- 1425- 31-Ctgs: Greenish gray finely granular limestone.

- 1431- 37-Ctgs: Same and dense limestone.
1437- 43-Ctgs: Same and light brown dense limestone.
1443- 50-Ctgs: Same.
1450- 57-Ctgs: Same and dense limestone.
1457- 72-Ctgs: Same.
1472- 79-Ctgs: Light brown dense limestone.
1479- 87-Ctgs: Light grayish brown dense and finely crystalline limestone.

1487- 94-Ctgs: Light greenish gray limestone and shaly lime.
1494-1500-Ctgs: Light greenish gray finely granular limestone.
1500- 07-Ctgs: Same and brown dense limestone.
1507- 14-Ctgs: Light brown dense limestone.
Ostracods.
Small brachiopods.

1514- 21-Ctgs: Same.
1521- 28-Ctgs: Light grayish brown dense and finely granular limestone.
Ostracods.

1528- 36-Ctgs: Same.
1536- 43-Ctgs: Same and greenish granular limestone.
1543- 64-Ctgs: Same.
1564- 72-Ctgs: Greenish gray granular limestone, dolomitic.
1572- 79-Ctgs: Same and light brown dense limestone.
1579- 85-Ctgs: Light greenish gray granular limestone.
1585- 92-Ctgs: Same.
1591- 97-Ctgs: Same and light brown dense limestone and dark greenish shales.

1597-1603-Ctgs: Light greenish gray and brownish granular limestone.
Green shale frag.

1603- 11-Ctgs: Same and light brown dense limestone; dark greenish gray shale frag.

1611- 17-Ctgs: Light greenish gray granular limestone and light brown dense limestone.
Frag. of dark greenish gray shale.

1618- 25-Ctgs: Same.
1625- 32-Ctgs: Greenish gray finely granular limestone. Pyrite. Green shale frag.

1632- 39-Ctgs: Greenish gray limestone, part sandy; small amount of light gray sandstone; soft green shale frag.; pyrite; rounded frosted quartz grains.

1639- 46-Ctgs: Buff-colored fine-gr. dolomite. Occasional rounded quartz grains.

1646- 54-Ctgs: Same.
1654- 61-Ctgs: Same and brown dolomite. Brown and white chert, part oolitic.

1661- 68-Ctgs: Light gray and brown dolomite.
1668- 75-Ctgs: Light brown dolomite.
1675- 79-Ctgs: Light and medium brown dolomite.

Summary

Tuscumbia and Fort Payne	7.5-11'	to.....	440'
Maury Shales	440'	to.....	444'
Chattanooga Shales	444'	to.....	458'
Devonian and Silurian	456'	to.....	687'
Silurian	687'	to.....	798'
Ordovician	798'	to.....	1679' T.D.

Copied from driller's log:

The Trenton (798-1018) gave strong petroliferous odors each time the cuttings were dumped. The brown limes beneath the Trenton (below 1018) gave up a few hundred cubic feet of gas per day and showed in chloroform a fair saturation of heavy brown oil. The Tuscumbia limestone in the upper 300 feet of the hole carried asphalt saturation. Plug set at 1670 feet; plug set at 474 feet; left 46 feet 10-inch casing in hole so well could be used for water; on Nov. 15 an 11-inch plate of $\frac{1}{4}$ -inch steel was welded over top.

CULLMAN COUNTY

C. V. Carey et al

King #1

NE/4 of NE/4 of NW/4

Sec. 35—T 8 S—R 4 W

Cullman County, Ala.

Elev. 868 feet

Began Nov. 12, 1933

Comp. Aug. 19, 1934

- 712- 15-Ctgs: Light brown granular limestone, fossiliferous; dark gray shale.
750- 60-Ctgs: Dark gray shale and gray limestone.
Crinoid stems.
760- 65-Ctgs: Gray crystalline limestone with chert.
765- 75-Ctgs: Gray and brown crystalline limestone.
780- 805-Ctgs: Same with chert.
815- 20-Ctgs: Same. Chert with dark streaks.
830- 35-Ctgs: Same.

Gap

- 880- 95-Ctgs: Same with **crinoid stems**.
890- 95-Ctgs: Brown and bluish chert and crystalline limestone.
925- 30-Ctgs: Brown and gray lime, part with brown stain, asphaltic ? residue.
Crinoid stems.
940- 45-Ctgs: Brown and gray lime.
970- 75-Ctgs: Same with white chert.
980- 85-Ctgs: Brown and gray limestone and bluish chert.
985-1005-Ctgs: Brown limestone and chert.
1005- 10-Ctgs: Same with white chert.
1015- 20-Ctgs: Brown crystalline limestone and chert, part bluish.
1020- 25-Ctgs: Brown limestone and chert.
1025- 30-Ctgs: Same.

Prob. Fort Payne

- 1029- 33-Ctgs: Brown limestone and chert.
1033- 60-Ctgs: Gray and white limestone and chert.
1060- 65-Ctgs: Bluish chert and gray limestone.

Fort Payne

- 1065- 70-Ctgs: Milky chert and crystalline light gray limestone.
1070- 75-Ctgs: Milky chert and brownish crystalline limestone.
1075- 80-Ctgs: Same and bluish chert.
1080- 90-Ctgs: Brown chert and crystalline limestone.
1090- 95-Ctgs: Bluish chert and light gray limestone.

- 1100- 05-Ctgs: Same.
Crinoid stems.

Sample bag marked:

- "1240- 55-Ctgs:" Black shale with spores; gray sandstone.
Chattanooga

- 1105- 10-Ctgs: Greenish gray lime and shale.

Silurian

- 1110- 60-Ctgs: Green and gray lime and chert.
1160- 65-Ctgs: Gray and green lime and chert.
1165- 70-Ctgs: Gray and green lime; chert.
1170- 75-Ctgs: Gray lime, part greenish tinged.
1175- 80-Ctgs: Green and gray lime and shale.
1180- 95-Ctgs: Green and gray lime and crystalline calcite. Chert.
1195-1200-Ctgs: Green shale and lime. Crystalline calcite; pink lime and chert noted.
1200- 05-Ctgs: Green and red lime. Crystalline calcite.
1205- 10-Ctgs: Dark red and green limestone. **Crinoid stems.** Pink chert.
1210- 15-Ctgs: Dark red and green limestone.
Crinoid stems.
1215- 20-Ctgs: Dark red lime; green shale, lime and chert.
1220- 30-Ctgs: Green shale, lime and chert, pink chert and lime, fossiliferous.
1230- 35-Ctgs: Green shale and lime; chert.

Gap in samples

- 1260- 65-Ctgs: Light gray coarsely crystalline limestone with pyrite;
dark gray limestone and shaly lime.

Prob. Ordovician

- 1270- 75-Ctgs: Same with yellowish limestone.
1275- 80-Ctgs: Same with light and dark gray fossiliferous limestone and shaly lime with pyrite; occasional sub-angular sand grains.
Coral frag.
1280- 85-Ctgs: Same and dark gray limestone with small black inclusions.
1285- 90-Ctgs: Greenish gray and dark gray lime with black inclusions.
Phosphatic casts of small **gastropods**.
1280-1325-Ctgs: Same.
1325- 30-Ctgs: Same and gray coarsely crystalline limestone.
Coral frag.
1330- 45-Ctgs: Same and black lime with phosphatic ? nodules.
1345- 50-Ctgs: Gray crystalline limestone with black inclusions and black lime.
1350- 75-Ctgs: Same and **coral** and **brachiopod frag.**
1370- 75-Ctgs: Same with more gray to black lime.
1375- 80-Ctgs: Same and greenish gray lime.
1380- 87-Ctgs: Same.
Bryozoa.

- 1387- 95-Ctgs: Dark gray shaly lime and light gray crystalline limestone with phosphatic inclusions.
1395-1415-Ctgs: Same.
Brachiopod frag.
1415- 35-Ctgs: Light gray to black crystalline and shaly lime, fossiliferous.
1435- 50-Ctgs: Same with phosphatic inclusions.
1450- 60-Ctgs: Same with small black phosphatic inclusions.
1460- 85-Ctgs: Same.
Small brachiopod and brachiopod impressions.
1485- 90-Ctgs: Light gray limestone; dark gray limestone.
1495-1510-Ctgs: Light gray crystalline limestone.
1510- 20-Ctgs: Same, part dense limestone.
1525- 30-Ctgs: Same with brown limestone.
1530- 35-Ctgs: Light brown crystalline limestone.
1535- 40-Ctgs: Gray crystalline limestone with black inclusions.
1540- 55-Ctgs: Same.
1555- 60-Ctgs: Brown granular limestone.
1560- 70-Ctgs: Gray granular limestone.
1575-1615-Ctgs: Gray crystalline limestone.
1615- 30-Ctgs: Gray and brown crystalline limestone.

Gap in samples

- 1685-1705-Ctgs: Light brown and gray crystalline limestone.
1705- 15-Ctgs: Same.
Small brachiopod.
1715- 25-Ctgs: Brown crystalline limestone.
1730- 35-Ctgs: Light brown crystalline limestone.
1735- 40-Ctgs: Light gray and brown crystalline limestone.
1740- 45-Ctgs: Light brown crystalline limestone.
1745- 60-Ctgs: Light bluish gray limestone.
1765- 70-Ctgs: Same.
1770- 75-Ctgs: Brown granular and dense limestone.
1755- 80-Ctgs: Same.
1780- 85-Ctgs: Brown crystalline limestone and chert.
Ostracods.
1785- 90-Ctgs: Bluish limestone.
1790-1800-Ctgs: Bluish limestone, fossiliferous.
1800- 05-Ctgs: Gray limestone.
1805- 10-Ctgs: Gray limestone, fossiliferous.
1810- 30-Ctgs: Gray and brown fossiliferous limestone.
1830- 40-Ctgs: Brown limestone.
1840- 45-Ctgs: Same.
Ostracods.
1845- 50-Ctgs: Brown granular limestone.
1850- 60-Ctgs: Same and light brown dense limestone.
1860- 75-Ctgs: Dark and light brown dense limestone.
1875- 85-Ctgs: Same and shaly lime.
1885- 90-Ctgs: Dark brown dense limestone.
1890-1900-Ctgs: Same and drab-colored dense limestone.

1900-	15-Ctgs:	Gray and brownish gray limestone.
1915-	70-Ctgs:	Grayish brown dense limestone.
1970-	85-Ctgs:	Greenish gray slightly granular limestone.
1985-	95-Ctgs:	Brown dense limestone and greenish gray finely granular limestone.
1995-2000-	Ctgs:	Greenish gray and brown finely granular limestone.
2000-	05-Ctgs:	Same and dense brown limestone.
2005-	15-Ctgs:	Brown and gray dense limestone.
2015-	20-Ctgs:	Greenish gray finely granular limestone, drab-colored dense limestone.
2020-	25-Ctgs:	Same and light gray limestone.
2025-	30-Ctgs:	Same and more light gray limestone.
2030-	35-Ctgs:	Brown and gray dense limestone.
2035-	40-Ctgs:	Light brown dense limestone.
2045-	55-Ctgs:	Light brown and finely granular limestone.
2055-	60-Ctgs:	Same and dark brown finely granular limestone.
2060-	85-Ctgs:	Light gray finely granular limestone.
2085-	90-Ctgs:	Brown granular and dense limestone.
2090-	95-Ctgs:	Gray and brown granular limestone.
2095-2100-	Ctgs:	Gray finely granular limestone.
2100-	15-Ctgs:	Gray granular limestone.
2115-	30-Ctgs:	Same. Occasional rounded frosted sand grains, pitted.
2120-	30-Ctgs:	Same.
2130-	35-Ctgs:	Gray finely granular limestone.
2135-	45-Ctgs:	Brown and gray finely granular limestone.
2145-2175-	Ctgs:	Gray finely granular limestone.
2175-	80-Ctgs:	Bluish gray dolomitic limestone.
2180-	95-Ctgs:	Gray dolomitic limestone.
2195-2200-	Ctgs:	Bluish gray dolomitic limestone.
2200-2255-	Ctgs:	Same and greenish shale and lime.
2270-	75-Ctgs:	Same and light gray limestone.
2275-	90-Ctgs:	Gray and greenish gray dolomitic limestone and vivid green shale.
2290-2303-	Ctgs:	Light gray to brown dolomite.

Knox

Referring to the driller's log in Bulletin 50 of the Alabama Geological Survey, page 41, I think the sandstone logged at 600-620 feet might be in the Hartselle; and I think the Chattanooga Shale is about where I have placed it in the section because samples immediately below it are in the Silurian.

Summary

In Fort Payne	at.....1005'
Chattanooga	at.....1100'±
In Silurian	at.....1110'
Ordovician	at.....1280'
Knox	at.....2290-2303'

Cullman Oil & Drilling Co.

J. W. Collum #1

SW/4 of NE/4

Sec. 36—T 8 S—R 4 W

Cullman County, Ala.

Began January 16, 1952

Completed March 8, 1953

29- 35-Ctgs: Gray hard limestone.

Bangor

35- 40-Ctgs: Gray oolitic limestone.

40- 45-Ctgs: Gray limestone and shaly lime with **Crinoid stems**.

45- 52-Ctgs: Gray hard oolitic limestone.

52- 60-Ctgs: Same and gray hard dense lime.

60- 65-Ctgs: Light gray limestone, part oolitic. Greenish shale.

65- 70-Ctgs: Light gray oolitic limestone and green shale.

70- 80-Ctgs: Light gray crystalline limestone.

80- 85-Ctgs: Same.

Brachiopods.

85- 90-Ctgs: Dark gray limestone, fossiliferous.

90- 102-Ctgs: Same.

102- 110-Ctgs: Gray limestone and med. to slightly coarse sand.

110- 120-Ctgs: Gray oolitic limestone and med. to slightly coarse sand.

120- 130-Ctgs: Same.

130- 135-Ctgs: Gray hard limestone and sand.

135- 145-Ctgs: Brown limestone.

145- 152-Ctgs: Same.

152- 162-Ctgs: Brown crystalline limestone.

162- 170-Ctgs: Grayish brown crystalline limestone, fossiliferous.

170- 180-Ctgs: Same.

180- 190-Ctgs: Same and oolitic limestone.

190- 200-Ctgs: Same with more oolitic limestone.

200- 210-Ctgs: Same.

210- 220-Ctgs: Light gray crystalline limestone and medium gray granular limestone.

Bryozoa.

Crinoid stems.

220- 230-Ctgs: Same.

230- 240-Ctgs: Brown limestone.

240- 250-Ctgs: Brown oolitic and crystalline limestone.

250- 260-Ctgs: Same.

260- 270-Ctgs: Light gray oolitic limestone.

270- 280-Ctgs: Same with **crinoid stems**.

Small Gastropods.

280- 290-Ctgs: Brown granular limestone.

290- 300-Ctgs: Brown granular and dense limestone.

300- 305-Ctgs: Brown oolitic and dense limestone.

305- 310-Ctgs: Same and finely granular limestone, fossiliferous.

- 310- 20-Ctgs: Brown oolitic and finely granular limestone.
 320- 30-Ctgs: Light gray oolitic limestone.
 330- 40-Ctgs: Grayish brown crystalline limestone.
 Crinoid stems.
 340- 50-Ctgs: Same with finely granular limestone.
 350- 60-Ctgs: Same.
 Crinoid stems.
 360- 70-Ctgs: Brown crystalline limestone and shaly lime.
 Crinoid stems.
 Bryozoa.
 370- 80-Ctgs: Brownish black shaly lime.
 380- 90-Ctgs: Same and brown limestone with **Crinoid stems**.
 390- 400-Ctgs: Medium-grained sandstone with brown stain.

Hartselle sandstone

- 400- 10-Ctgs: Medium-grained sand and sandstone with slight brown stain.
 Crinoid stems noted.
 410- 20-Ctgs: Medium to fine-grained hard sandstone.
 420- 25-Ctgs: Same.
 Crinoid stems.
 425- 35-Ctgs: Medium-grained sand and sandstone.
 435- 45-Ctgs: Same with fine-grained sandstone and dark gray shale.
 Crinoid stems.
 Shell frag.
 445- 55-Ctgs: Gray lime with **Crinoid stems**.
 Shell frag.

Gasper

- 455- 65-Ctgs: Black shale, brown claystone. Pyrite.
 Crinoid stems.
 Ostracods.
 Shells.
 Brachiopod spines.
 465- 75-Ctgs: Same with more pyrite.
 475- 85-Ctgs: Same.
 485- 95-Ctgs: Dark gray to black soft shale. Oolitic limestone noted.
 Bryozoa.
 Ostracods.
 495- 501-Ctgs: Dark gray to black oolitic limestone.
 501- 11-Ctgs: Light gray coarsely crystalline limestone with slight brown stain.

St. Genevieve

- 511- 20-Ctgs: Light gray and greenish crystalline limestone.
 520- 30-Ctgs: Light gray coarsely crystalline limestone and light gray chert.
 530- 40-Ctgs: Light gray crystalline limestone with occasional fine green inclusions.

540- 50-Ctgs: Same.

Prob. Tuscumbia

550- 60-Ctgs: Light gray limestone and smoky chert.

560- 70-Ctgs: Gray crystalline limestone, fossiliferous.

570- 80-Ctgs: Same, slightly oolitic; part finely granular.
Crinoid stems.
Endothyra sp.

580- 90-Ctgs: Light gray crystalline limestone with **Endothyra**.
Cross section of Endothyra sp. noted.

590- 600-Ctgs: Same and smoky chert.

600- 15-Ctgs: Same.
Crinoid stems.

615- 25-Ctgs: Same and white chert.

625- 35-Ctgs: Gray crystalline limestone and light gray chert.

635- 50-Ctgs: Light gray crystalline limestone.

650- 60-Ctgs: Brownish gray crystalline limestone.

660- 70-Ctgs: Brownish gray crystalline limestone.
Crinoid stems.

670- 80-Ctgs: Light gray limestone, fossiliferous.

680- 90-Ctgs: Light gray limestone with chert.

690- 700-Ctgs: Same.

700- 10-Ctgs: Brownish gray crystalline limestone.

710- 20-Ctgs: Same, fossiliferous.
Fenestella Bryozoa.

720- 30-Ctgs: Buff-colored finely granular limestone with light bluish
gray chert.

730- 45-Ctgs: Gray limestone with dark chert.

745- 55-Ctgs: Light gray cherty limestone.

750- 70-Ctgs: Very light gray cherty limestone with light gray and
bluish chert.

770- 80-Ctgs: Same.

780- 90-Ctgs: Light gray limestone with bluish chert.

790- 800-Ctgs: Same.

800- 15-Ctgs: Gray limestone and white and bluish chert.

Prob. Fort Payne

815- 25-Ctgs: Med. gray cherty limestone and darker chert.

825- 35-Ctgs: Dark gray cherty limestone.

835- 45-Ctgs: Gray cherty limestone.

845- 55-Ctgs: Same and light gray limestone.

855- 65-Ctgs: Light gray crystalline limestone with bluish chert.

864- 75-Ctgs: Same.

875- 85-Ctgs: Bluish chert and light gray limestone.
Crinoid stems.

885- 95-Ctgs: Same and more **Crinoid stems**.

905- 15-Ctgs: Same.

915- 25-Ctgs: Same and buff-colored cherty limestone.

925- 35-Ctgs: Light gray limestone and bluish chert.

- 945- 55-Ctgs: Light and dark gray limestone, part cherty, and light gray chert.
 955- 65-Ctgs: Same.
 965- 75-Ctgs: Black shale with pyrite inclusions. Greenish lime and shale.
 Spores noted.

Chattanooga Shales

- 975- 85-Ctgs: Black dense shale and fine-grained sandstone. Pyrite.
 Spores noted.
 985- 95-Ctgs: Same and greenish limestone.

Silurian

- 995-1005-Ctgs: Same and greenish lime and shale.
 1005- 15-Ctgs: Same.
 1015- 25-Ctgs: Light and dark gray limestone, with black phosphatic inclusions.

Ordovician

- 1025- 35-Ctgs: Same, with more light gray limestone.
 1035- 45-Ctgs: Same.
 1045- 55-Ctgs: Dark gray limestone.
 1055- 65-Ctgs: Same, fossiliferous.
 1065- 85-Ctgs: Same.
 1085- 95-Ctgs: Gray to black shale with small black phosphatic inclusions.
 Small brachiopods.
 1095-1105-Ctgs: Same.
 1105- 15-Ctgs: Gray limestone, with black phosphatic inclusions and black limestone.
 1115- 25-Ctgs: Same, with part of lime yellowish. Dark red and green shaly lime noted.
 1125- 35-Ctgs: Black shaly lime and light yellowish and green crystalline limestone.
 1135- 45-Ctgs: Gray lime with black inclusions and black shaly lime.
 1145- 55-Ctgs: Light gray crystalline limestone with black inclusions, fossiliferous.
 Tetradium ? sp.
 1155- 65-Ctgs: Same with more black shaly limestone.
 1165- 80-Ctgs: Gray limestone with black inclusions, very fossiliferous.
 1180- 90-Ctgs: Same.
 1190-1200-Ctgs: Gray limestone with abundant small black inclusions.
 1200- 10-Ctgs: Same with black shale.
 1210- 20-Ctgs: Dark gray limestone and shaly lime. Black inclusions noted.
 1220- 30-Ctgs: Same and light gray limestone frag.
 1230- 40-Ctgs: Buff-colored crystalline limestone.
 1240- 50-Ctgs: Same.
 1250- 60-Ctgs: Same with greenish granular limestone.
 1260- 70-Ctgs: Light brown dense and crystalline limestone.

- 1270- 80-Ctgs: Brownish gray crystalline and oolitic limestone.
1280- 90-Ctgs: Brownish gray crystalline limestone.
1290-1300-Ctgs: Same and finely granular limestone.
1300- 10-Ctgs: Gray finely granular limestone.
1310- 20-Ctgs: Dark gray finely granular limestone and shale.
1320- 30-Ctgs: Same.
1330- 40-Ctgs: Same and brownish gray dense limestone.
1340- 50-Ctgs: Brown and buff-colored dense limestone.
1350- 60-Ctgs: Same.
1360- 70-Ctgs: Same and brown granular limestone.
1370- 90-Ctgs: Same.
1390-1400-Ctgs: Gray and brownish dense limestone.
1400- 10-Ctgs: Gray dense limestone.
1410- 20-Ctgs: Same and brownish dense limestone.
1420- 30-Ctgs: Brown crystalline limestone.
1430- 40-Ctgs: Brown finely granular limestone.
1440- 50-Ctgs: Same.
1450- 60-Ctgs: Same and brown chert.
1460- 70-Ctgs: Brown dense and crystalline limestone.
1470- 80-Ctgs: Gray dense and granular limestone.
1480- 90-Ctgs: Gray finely granular limestone.
1490-1500-Ctgs: Light brown crystalline limestone.
1500- 10-Ctgs: Same with chert.
1510- 20-Ctgs: Same.
1520- 30-Ctgs: Gray dense and finely granular limestone.
1530- 40-Ctgs: Gray dense limestone with pyrite.
1540- 50-Ctgs: Same.
1550- 60-Ctgs: Brownish gray dense limestone.
1560- 70-Ctgs: Same.
1570- 80-Ctgs: Brown dense and finely granular limestone.
1580- 90-Ctgs: Same and buff-colored limestone.
1590-1600-Ctgs: Light gray very dense limestone.
1600- 10-Ctgs: Brown dense limestone.
1610- 30-Ctgs: Same.
1630- 40-Ctgs: Dark gray and brownish dense limestone.
1640-1700-Ctgs: Same.
1700- 10-Ctgs: Light greenish gray dense limestone.
1710- 20-Ctgs: Buff-colored dense limestone.
1720- 30-Ctgs: Brownish gray dense limestone.
1730- 40-Ctgs: Brownish gray and greenish dense limestone.
1740- 50-Ctgs: Same.
1750- 60-Ctgs: Same and light greenish dense limestone.
1760- 70-Ctgs: Brown and gray dense limestone.
1770- 90-Ctgs: Light gray finely granular limestone.
1780- 90-Ctgs: Brown and greenish gray dense and finely granular limestone.
1790-1800-Ctgs: Light gray fine-gr. dolomite.
1800- 10-Ctgs: Same with brown and greenish limestone.
1810- 20-Ctgs: Greenish fine-gr. dolomite.

- 1820- 30-Ctgs: Light gray and greenish fine-gr. dolomite, dark green shale frag.
- 1830- 40-Ctgs: Same with more green shale with fine pyrite.
- 1840- 70-Ctgs: Same.
- 1870- 80-Ctgs: Buff-colored dense limestone and greenish limestone.
- 1880-1900-Ctgs: Light gray and greenish fine-gr. dolomite.
- 1900- 05-Ctgs: Same and green shale.
- 1915- 25-Ctgs: Same and dense limestone.
- 1925- 40-Ctgs: Greenish finely granular dolomite and green shale.
- 1940- 70-Ctgs: Same.
- 1970- 80-Ctgs: Light green fine-gr. dolomite, part with fine pyrite.
- 1980- 95-Ctgs: Same and light brown dolomite. Vivid green shale.
- 1995-2005-Ctgs: Light gray and buff-colored dolomite.
- 2005- 15-Ctgs: Buff-colored dolomite.
- 2015- 25-Ctgs: Buff-colored and greenish fine-gr. dolomite.
- 2025- 35-Ctgs: Buff-colored and light gray dolomite.
- 2035- 45-Ctgs: Light gray dolomite and limestone.

Prob. Knox

- 2045- 60-Ctgs: Light gray and buff-colored dolomite and bluish chert..
- 2060- 70-Ctgs: Light gray and buff-colored dolomite.
- 2070- 85-Ctgs: Same.
- 2085-2100-Ctgs: Light gray dense limestone and dolomite.
- 2100- 10-Ctgs: Light gray dolomite.
- 2110- 20-Ctgs: Light gray dense limestone.
- 2120- 25-Ctgs: Light gray dense limestone.
- 2125- 37-Ctgs: Light gray dolomite and limestone.
- 2137- 45-Ctgs: Light gray dolomite.
- 2145- 50-Ctgs: Buff-colored dolomite and finely granular lime.
- 2150- 60-Ctgs: Same with light gray dense lime.
- 2160- 70-Ctgs: Light gray, finely granular lime and dolomite.
- 2170- 77-Ctgs: Same.
- 2177- 85-Ctgs: Light gray dolomite with occasional rounded sand grains.
- 2185-2200-Ctgs: Same.
- 2200- 06-Ctgs: Light gray dolomite and limestone and bluish chert.
- 2206- 20-Ctgs: Same with chert.
- 2220- 25-Ctgs: Light gray dolomite and limestone.
- 2225- 32-Ctgs: Light gray dolomite.
- 2225- 37-Ctgs: Light gray dolomite and lime.
- 2237- 43-Ctgs: Light gray dolomite.
- 2243- 53-Ctgs: Same with bluish chert.
- 2253- 62-Ctgs: Buff-colored dolomite.
- 2262- 71-Ctgs: Same.
- 2271- 77-Ctgs: Light gray limestone and chert.
- 2277- 84-Ctgs: Light gray dense limestone.
- 2284- 91-Ctgs: Same.
- 2291-2301-Ctgs: Same with more chert.
- 2302- 12-Ctgs: Same.

2312-	18-Ctgs:	Light gray dolomite.
2318-	62-Ctgs:	Same.
2362-	73-Ctgs:	Same and limestone.
2373-	85-Ctgs:	Light gray dolomite with rounded sand grains.
2385-	95-Ctgs:	Light gray dolomite. Occasional sand grains.
2393-2401-	Ctgs:	Light gray dolomite with rounded frosted sand grains.
2401-	21-Ctgs:	Same.
2421-	29-Ctgs:	Light gray dolomite and limestone.
2429-	41-Ctgs:	Light gray dolomite.
2441-	50-Ctgs:	Same with rounded sand grains.
2450-	61-Ctgs:	Light gray dolomite with rounded frosted sand grains.
2461-	70-Ctgs:	Light gray dolomite and white chert.
2470-	80-Ctgs:	Light gray dolomite.
2480-	92-Ctgs:	Same and white chert.
2492-	98-Ctgs:	Light gray dolomite.
2498-2507-	Ctgs:	Light gray limestone and dolomite.
2505-	17-Ctgs:	Light gray dolomite with rounded frosted sand grains.
2517-	29-Ctgs:	Light gray dolomite and white chert.
2522-	36-Ctgs:	Same and bluish chert.
2536-	48-Ctgs:	Light gray dolomite.
2548-	55-Ctgs:	Light gray chert, light gray limestone and dolomite.
2555-	65-Ctgs:	Light gray dolomite and limestone.
2565-	75-Ctgs:	Light gray dolomite.
2575-	82-Ctgs:	Light gray chert, limestone and dolomite.
2582-	89-Ctgs:	Light gray limestone and dolomite.
2589-2614-	Ctgs:	Same.
2614-	22-Ctgs:	Same with light gray chert.
2622-	28-Ctgs:	Light gray limestone and dolomite.
2628-	40-Ctgs:	Same.
2640-	50-Ctgs:	Light gray and light brown limestone.
2650-	62-Ctgs:	Light gray limestone.
2662-	70-Ctgs:	Light gray and white dense cherty limestone.
2670-	75-Ctgs:	Same.
2675-	82-Ctgs:	Light gray limestone with chert.
2682-	89-Ctgs:	Buff-colored dolomite.
2689-2700-	Ctgs:	Same and limestone.
2700-	10-Ctgs:	Same with more dolomite.
2710-	20-Ctgs:	Light gray dolomite and rounded sand grains, part embedded in chert.
2720-	30-Ctgs:	Light gray cherty limestone.
2730-	36-Ctgs:	Same.
2736-	40-Ctgs:	Same and dolomite.
2740-	44-Ctgs:	Light gray limestone, dolomite and chert.
2744-	49-Ctgs:	Light bluish gray dolomite and limestone with chert. Rounded sand grains.
2749-	55-Ctgs:	Same with white chert.
2755-	60-Ctgs:	Same with less chert.
2759-	63-Ctgs:	Light gray cherty limestone and dolomite.
2763-	68-Ctgs:	Same.
2768-	75-Ctgs:	Same.

- 2775- 80-Ctgs: Light gray dolomite and limestone.
 2780- 86-Ctgs: Same and light bluish dolomite .
 2786- 93-Ctgs: Same and limestone.
 2793-2802-Ctgs: Light gray dolomite.
 2802- 06-Ctgs: Light gray dolomite.
 2806- 10-Ctgs: Same and limestone.
 2810- 16-Ctgs: Light bluish gray dolomite with white chert.
 2816- 23-Ctgs: Same.
 2823- 26-Ctgs: Same with rounded sand grains.
 2826- 33-Ctgs: Same and bluish brittle shale, from above ?
 2833- 37-Ctgs: Gray and bluish dense limestone with occasional sand grains.
 2837- 48-Ctgs: Same.
 2848- 51-Ctgs: Light gray dolomite and bluish limestone.
 2851- 55-Ctgs: Light bluish gray dense limestone and dolomite.
 Cave in sample—2855 ft. taken 2-17-53.—Light gray and bluish limestone and chert.
 Cave in sample—2855 ft.—taken 2-24-53.—Light gray and bluish limestone and chert.

Summary

Bangor	at	29-35'
Hartselle	at	390-400'
Gasper	at	445-55'
St. Genevieve	at	501'
Prob. Tuscumbia	at	540-50'
Prob. Fort Payne	at	800'
Chattanooga	at	965-75'
Silurian	at	985-95'
Ordovician	at	1015-25'
Prob. Knox	at	2035-45'

FAYETTE COUNTY

J. C. Shepherd

Fee #1

SE/4 of NW/4

Sec. 28—T 16 S—R 11 W

Fayette County, Ala.

Began Dec. 18, 1941

Comp. Feb. 20, 1942

- 50- 55-Ctgs: Dark gray micaceous, carbonaceous shale and sandy shale.
Calcite veins noted.

Pennsylvanian

- 55- 60-Ctgs: Same with increasing amount of shale.
60- 90-Ctgs: Gray hard micaceous medium-grained carbonaceous sandstone, gray to black carbonaceous claystone. Coal frag.
90- 95-Ctgs: Dark gray to black micaceous shale and sandy shale and hard medium-grained micaceous sandstone.
95- 100-Ctgs: Dark gray to black micaceous shale and sandy shale.
100- 05-Ctgs: Same and fragment of hard gray micaceous sandstone, probably from above.
105- 10-Ctgs: Same.
110- 45-Ctgs: Same with hard fine-grained micaceous sandstone.
145- 50-Ctgs: Same with increasing amount of sandstone.
150- 55-Ctgs: Dark gray micaceous shale and sandy shale with carbonaceous material.
155- 60-Ctgs: Same.
160- 65-Ctgs: Same and light gray hard fine-grained micaceous sandstone.
165- 70-Ctgs: Same.
170- 75-Ctgs: Gray hard micaceous calcareous sandstone with carbonaceous material and shale.
175- 80-Ctgs: Same, calcite noted.
180- 85-Ctgs: Same.
185- 90-Ctgs: Same with increasing amount of black shale.
190- 95-Ctgs: Same.
195- 200-Ctgs: Black micaceous shale and gray hard fine-grained micaceous sandstone.
200- 05-Ctgs: Same.
205- 10-Ctgs: Hard black shale. Pyrite noted.
210- 15-Ctgs: Same.
220- 25-Ctgs: Light gray medium-grained angular and sub-angular sand with mica and sandstone, gray and brown shale.
225- 30-Ctgs: Same with carbonaceous material.
230- 45-Ctgs: Light gray micaceous coarse-grained sandstone with green inclusions.
Pyrite. Gray and drab-colored shale.

- 245- 50-Ctgs: Same with hard medium-grained sandstone and more mica.
 250- 70-Ctgs: Same and carbonaceous material.
 270- 95-Ctgs: Same and dark gray to black shale.
 295- 300-Ctgs: Dark gray to black micaceous carbonaceous shale and sandy shale and frag. of gray micaceous sandstone.
 300- 05-Ctgs: Same.
 305- 10-Ctgs: Black micaceous, carbonaceous shale and dark gray, slightly sandy shale.
 310- 15-Ctgs: Same.
 315- 20-Ctgs: Gray hard fine-grained micaceous, carbonaceous sandstone, dark gray to black micaceous carbonaceous shale.
 320- 30-Ctgs: Gray hard medium-grained micaceous carbonaceous sandstone, black micaceous shale and sandy shale.
 330- 45-Ctgs: Same with considerable carbonaceous material.
 345- 50-Ctgs: Same with brownish calcareous sandstone.
 350- 60-Ctgs: Same with brown clay.
 365- 75-Ctgs: Dense black shale.
 375- 85-Ctgs: Same with mica, pyrite.
 385- 90-Ctgs: Same, and sandy shale.
 390- 400-Ctgs: Same with increasing amount of mica. Hard gray fine-grained sandstone and sandy shale.
 400- 15-Ctgs: Same. Coal frag.
 415- 20-Ctgs: Black shale and gray and brown sandstone and sandy shale with mica.
 420- 25-Ctgs: Black shale and black to gray micaceous carbonaceous shale and sandy shale.
 425- 30-Ctgs: Black shale and micaceous shale and gray sandy micaceous carbonaceous shale.
 430- 35-Ctgs: Black shale and frag. of brown shale, gray micaceous sandstone, frag. and pyrite.
 435- 40-Ctgs: Drab-colored clay with pyrite, black shale and gray sandstone frag.
 440- 45-Ctgs: Drab-colored clay and sandy clay with siderite concretions, gray fine-grained micaceous sandstone, black shale, pyrite.
 445- 50-Ctgs: Gray micaceous medium to fine-grained sandstone, brown and drab-colored clay, black shale.
 450- 55-Ctgs: Gray medium-grained micaceous sandstone, black and gray shale.
 455- 60-Ctgs: Same, and increasing amount of gray and black shale. Carbonaceous material and frag. of coal. According to driller's log, show of gas and 6 in. of coal at 455-60 ft.
 460- 65-Ctgs: Gray hard fine-grained micaceous sandstone, gray micaceous shale and black carbonaceous shale.
 465- 70-Ctgs: Gray and black micaceous carbonaceous shale and sandy shale.
 Carbonaceous material.
 470- 75-Ctgs: Black and gray micaceous carbonaceous shale and sandy shale, coal frag. **Pyrite noted.**

- 475- 80-Ctgs: Light gray hard fine-grained micaceous sandstone and gray to black micaceous, carbonaceous shale.
- 480- 95-Ctgs: Gray hard fine-grained sandstone and sandy carbonaceous micaceous shale, gray to black shale and carbonaceous material.
- 494- 500-Ctgs: Drab-colored clay and sandy clay with siderite concretions light gray fine-grained hard micaceous sandstone.
- 500- 05-Ctgs: Same and gray micaceous shale.
- 505- 10-Ctgs: Gray hard fine-grained micaceous sandstone with carbonaceous material. Black carbonaceous shale.
- 510- 15-Ctgs: Gray hard fine-grained micaceous sandstone, hard brown clay and gray to black micaceous shale.
- 515- 20-Ctgs: Gray to black shale and fine-grained micaceous sandstone.
- 520- 25-Ctgs: Same.
- 525- 30-Ctgs: Black and gray micaceous, carbonaceous shale and sandy shale.
- 530- 35-Ctgs: Same.
- 535- 40-Ctgs: Gray fine-grained micaceous sandstone and sandy shale.
- 540- 60-Ctgs: Brown and gray fine-grained micaceous sandstone with carbonaceous material and gray micaceous shale. Show of **heavy oil, according to driller's log.**
- 560- 65-Ctgs: Gray to black micaceous shale and sandy shale and fine-grained micaceous sandstone and carbonaceous material.
- 565- 70-Ctgs: Black and gray shale with mica.
- 570- 75-Ctgs: Same and sandy shale.
- 575- 80-Ctgs: Same and sandy shale. Hard brown clay. Crinoid stems.
- 580- 85-Ctgs: Gray to black micaceous carbonaceous shale and sandy shale. Pentagonal crinoid stems noted.
- 585- 90-Ctgs: Gray to black micaceous carbonaceous shale and sandy shale.
- 590- 95-Ctgs: Same and fine-grained micaceous sandstone carbonaceous material.
- 595- 605-Ctgs: Gray fine-grained micaceous sandstone, black shale and sandy shale, carbonaceous material.
- 605- 10-Ctgs: Black and gray micaceous carbonaceous shale; gray fine-grained micaceous sandstone.
- 610- 15-Ctgs: Gray sandy micaceous shale.
- 615- 20-Ctgs: Black and gray micaceous shale. Ostracods and small pelecypods noted.
- 620- 25-Ctgs: Same and brown claystone. Pelecypods and Ostracods.
- 625- 30-Ctgs: Dense black shale and hard brown clay. Ostracod and small pelecypods and gastropods.
- 630- 35-Ctgs: Black shale with mica, fossiliferous, brown claystone. Small pelecypods and ostracods.
- 635- 40-Ctgs: Dense black shale, part micaceous. Hard brown clay. Gastropods. Ostracods.

- 640- 45-Ctgs: Same with mica; drab-colored clay; frag. of coal.
Euphemus sp.
- 645- 50-Ctgs: Black micaceous shale and sandy shale, drab-colored clay.
Ostracods and small pelecypods and gastropods.
- 650- 55-Ctgs: Light gray fine-grained micaceous sandstone, gray clay,
part with siderite concretions.
- 655- 80-Ctgs: Gray medium-grained micaceous sand and sandstone with
carbonaceous material, hard brown claystone and black
shale frag.
- 680- 95-Ctgs: Same and black micaceous carbonaceous shale.
- 690- 700-Ctgs: Gray micaceous carbonaceous medium-grained sandstone
and gray micaceous shale.
- 700- 15-Ctgs: Same with increasing amount of mica.
- 715- 20-Ctgs: Gray to black micaceous carbonaceous shale and sandy
shale.
- 720- 25-Ctgs: Same with light gray micaceous carbonaceous fine-grained
sandstone.
- 725- 35-Ctgs: Light gray fine-grained micaceous carbonaceous sand-
stone and gray to black micaceous carbonaceous shale and
sandy shale.
- 735- 40-Ctgs: Same and brown claystone.
- 750- 60-Ctgs: Same.
- 765- 95-Ctgs: Black to gray micaceous carbonaceous shale and sandy
shale and gray fine-grained micaceous sandstone.
- 795- 800-Ctgs: Same with brown micaceous sandstone.
- 800- 05-Ctgs: Same.
- 805- 25-Ctgs: Gray to black micaceous shale and sandy shale. Pyrite.
- 830- 35-Ctgs: Same and light gray micaceous sandstone.
- 835- 40-Ctgs: Same.
- 840- 45-Ctgs: Dark gray to black shale and sandy shale.
- 845- 50-Ctgs: Dark gray to black shale and sand.
- 850- 55-Ctgs: Dark gray to black micaceous, carbonaceous shale and
gray sandy shale.
Shell frag. noted.
Crinoid stem.
- 855- 60-Ctgs: Gray micaceous, carbonaceous shale and sandy shale, and
black shale.
- 860- 65-Ctgs: Gray hard fine-grained micaceous, carbonaceous sandstone
and sandy shale.
- 865- 70-Ctgs: Black micaceous, carbonaceous shale and gray sandy shale.
- 870- 75-Ctgs: Gray to black micaceous, carbonaceous shale and sandy
shale.
- 875- 80-Ctgs: Same.
- 880- 85-Ctgs: Same and brown medium-grained sandstone.
- 885- 90-Ctgs: Medium-grained sand covered with oil stain.
- 890- 95-Ctgs: Same and gray shale frag.
- 895- 900-Ctgs: Gray to black micaceous carbonaceous shale; medium-
grained sandstone, part with oil stain; brown shale.
- 900- 10-Ctgs: Black micaceous, carbonaceous shale; brown shale; gray
sandy shale.

- 910- 15-Ctgs: Light gray hard fine-grained micaceous sandstone with brown clay inclusions; dark gray to black micaceous, carbonaceous shale.
- 915- 20-Ctgs: Light gray hard fine-grained micaceous sandstone, gray and black carbonaceous shale.
- 920- 25-Ctgs: Dark gray to black shale; frag. of coal, gray sandy shale.
- 925- 30-Ctgs: Dark gray to black micaceous, carbonaceous shale; gray sandy shale; carbonaceous material.
- 930- 35-Ctgs: Light gray sandy shale, dark gray to black micaceous, carbonaceous shale.
- 935- 40-Ctgs: Brown and gray shale with carbonaceous material.
- 940- 45-Ctgs: Gray and brown shale and sandy shale; coal frag. and carbonaceous shale.
- 945- 50-Ctgs: Gray sandy micaceous shale; brown shale with siderite ? concretions.
- 950- 55-Ctgs: Medium-grained sandstone with slightly oil stain. Shale frag.
- 955- 60-Ctgs: Same with mica.
- 960- 65-Ctgs: Dark gray to black shale with mica and carbonaceous material.
- 965- 70-Ctgs: Gray shale and sandy shale with mica; light gray hard fine-grained sandstone.
- 970- 75-Ctgs: Light gray hard fine-grained micaceous sandstone and dark gray carbonaceous shale.
- 975- 80-Ctgs: Gray hard fine-grained micaceous, carbonaceous sandstone and sandy shale.
- 980- 85-Ctgs: Gray hard fine-grained micaceous sandstone, gray to black micaceous carbonaceous shale.
- 985- 95-Ctgs: Gray to black shale with mica and carbonaceous material, gray fine-grained sandstone frag.
- 995-1006-Ctgs: Dark gray to black carbonaceous shale and sandy shale.
- 1000- 10-Ctgs: Same and brown shale and pyrite.
- 1010- 15-Ctgs: Same and carbonaceous material.
- 1015- 25-Ctgs: Black carbonaceous shale, brown shale noted.
- 1025- 30-Ctgs: Same and coal.
- 1030- 35-Ctgs: Gray hard fine-grained sandstone and sandy shale; gray to black shale.
- 1035- 50-Ctgs: Light gray medium-grained sandstone and sand; gray shale frag.
- 1050- 55-Ctgs: Same and brown shale.
- 1055- 60-Ctgs: Medium-grained sand and sandstone and gray to black shale.
- 1060- 65-Ctgs: Light gray hard fine-grained sandstone, gray to black micaceous, carbonaceous shale.
- 1065-1105-Ctgs: Light gray very hard fine-grained micaceous sandstone, gray to black micaceous carbonaceous shale.
- 1105- 10-Ctgs: Same with medium-grained sandstone.
- 1110- 15-Ctgs: Gray medium to fine-grained sandstone with mica, gray to black carbonaceous shale and sandy shale; carbonaceous material.

- 1115- 30-Ctgs: Light gray medium to fine-grained sandstone and sand with mica, gray to black carbonaceous shale frag.
- 1130- 35-Ctgs: Light gray medium-grained sand and sandstone and shale frag.
- 1135- 75-Ctgs: Gray hard medium-grained sandstone with mica, frag. of brown sandstone.
- 1175- 80-Ctgs: Same with gray to black shale frag.
- 1185- 90-Ctgs: Same and gray and brown shale frag.
- 1190- 95-Ctgs: Medium-grained sand. Mica.
- 1195-1205-Ctgs: Medium-grained sand and sandstone.
- 1205- 35-Ctgs: Same with mica.
- 1235- 40-Ctgs: Same and gray shale. Coal.
- 1240- 45-Ctgs: Medium gray waxy shale with siderite concretions.
- 1245- 50-Ctgs: Gray shale and sandy shale with siderite concretions.
- 1250- 60-Ctgs: Gray hard fine-grained sandstone and sandy shale with mica.
- 1260- 70-Ctgs: Gray hard fine-grained sandstone and sandy shale with mica and carbonaceous material.
- 1270- 75-Ctgs: Gray fine-grained sandstone with mica and carbonaceous material.
- 1275- 80-Ctgs: Same with gray to black shale.
- 1280- 85-Ctgs: Gray hard fine-grained sandstone with mica and carbonaceous material, and frag. of gray shale.
- 1285- 95-Ctgs: Gray hard fine-grained sandstone and sandy shale with mica; gray shale with mica.
- 1295-1310-Ctgs: Same and gray carbonaceous shale.
- 1310- 15-Ctgs: Dark gray to black shale and sandy shale with mica.
- 1315- 40-Ctgs: Same and frag. of gray hard fine-grained sandstone.
- 1340- 50-Ctgs: Same with pyrite.
- 1350- 55-Ctgs: Dark gray shale and sandy shale with mica.
- 1355- 65-Ctgs: Gray to black shale with mica; sandy shale.
- 1365- 70-Ctgs: Dark gray to black shale with mica and sandy shale.
- 1370- 90-Ctgs: Same with carbonaceous material.
- 1390-1400-Ctgs: Dark gray to black shale and sandy shale with mica.
- 1400- 05-Ctgs: Dark gray to black shale and sandy shale with mica.
- 1405- 20-Ctgs: Dark gray shale and sandy shale with mica.
- 1420- 35-Ctgs: Dark gray to black shale and sandy shale.
- 1435- 40-Ctgs: Black shale, part sandy, with mica.
- 1440- 50-Ctgs: Black carbonaceous shale, part sandy, with mica.
- 1450- 80-Ctgs: Dense black shale.
- 1480- 85-Ctgs: Same. Pyrite.
- 1485- 90-Ctgs: Same and carbonaceous material.
- 1490- 95-Ctgs: Dense black shale.
- 1495-1500-Ctgs: Same and dark gray sandy micaceous shale.
- 1500- 05-Ctgs: Same with increasing amount of dark gray sandy shale.
- 1505- 10-Ctgs: Black shale and sandy shale with mica; light gray hard fine-grained sandstone with mica.
- 1510- 25-Ctgs: Light gray hard fine-grained micaceous, carbonaceous sandstone, dark gray to black sandy shale.
- 1525- 30-Ctgs: Same with increasing amount of mica.

- 1530- 35-Ctgs: Black micaceous shale and sandy shale, and gray hard fine-grained sandstone.
- 1535- 40-Ctgs: Dark gray to black shale and sandy shale with mica.
- 1540- 45-Ctgs: Same and gray sandy shale.
- 1545- 50-Ctgs: Light gray hard fine-grained sandstone with mica, black shale and sandy shale; coal.
- 1550- 60-Ctgs: Light gray medium-grained sandstone with mica; black shale frag.
- 1560- 65-Ctgs: Same and hard brown clay.
- 1565- 70-Ctgs: Same with coarse-grained sand and gray clay inclusions; also carbonaceous inclusions. Hard brown clay.
- 1570- 75-Ctgs: Medium to fine-grained sand.
- 1575- 85-Ctgs: Medium-grained sand.
- 1585-1600-Ctgs: Medium to coarse-grained sand and sandstone. Part of sand with crystal faces, part etched.
- 1600- 05-Ctgs: Same and dark gray shale frag.
- 1605- 10-Ctgs: Medium to fine sand, gray and black shale.
- 1610- 15-Ctgs: Hard black and gray shale, fine to medium-grained sand.
- 1615- 20-Ctgs: Same and medium-grained sand.
- 1625- 40-Ctgs: Black and gray shale and sandy shale.
- 1640- 50-Ctgs: Gray shale and sandy shale; black and brown carbonaceous shale.
- 1650- 60-Ctgs: Black carbonaceous shale and gray sandy shale.
- 1660- 80-Ctgs: Same with mica.
- 1685-1705-Ctgs: Black shale and sandy shale.
- 1705- 40-Ctgs: Dark gray to black shale and sandy shale.
- 1740- 45-Ctgs: Black shale.
- 1745- 55-Ctgs: Black carbonaceous shale.
- 1755- 65-Ctgs: Gray hard medium-grained micaceous sandstone, black shale.
- 1765- 75-Ctgs: Gray medium-grained to fine sandstone with mica; black shale.
- 1775- 80-Ctgs: Medium-grained sand and sandstone.
- 1780- 85-Ctgs: Same and black shale frag.
- 1785- 95-Ctgs: Same and brown shale frag.
- 1825- 35-Ctgs: Same.
- 1835- 45-Ctgs: Light gray hard medium-grained sand and sandstone and mica.
- 1845- 50-Ctgs: Same with fine-grained sand.
- 1850- 55-Ctgs: Light gray medium-grained sand and sandstone with mica.
- 1855- 60-Ctgs: Light gray hard medium-grained sandstone with mica. Black shale with mica.
- 1860- 65-Ctgs: Light gray hard medium-grained micaceous sandstone.
- 1865- 70-Ctgs: Same with black shale frag.
- 1870- 80-Ctgs: Same, part of sandstone with shale lenses.
- 1880- 85-Ctgs: Same and black shale and sandy shale.
- 1885- 90-Ctgs: Gray and black carbonaceous shale and sandy shale.
- 1890- 95-Ctgs: Same with mica.
- 1895-1900-Ctgs: Same and light gray medium-grained hard sandstone.

1900-	15-Ctgs:	Light gray medium-grained sandstone with mica; black shale.
1915-	45-Ctgs:	Medium-grained sand, black shale frag.
1845-	55-Ctgs:	Medium to coarse-grained sand.
1955-	60-Ctgs:	Gray hard medium to fine-grained sandstone with mica.
1960-	65-Ctgs:	Same and black micaceous shale and sandy shale.
1965-	75-Ctgs:	Same and gray sandy shale. Carbonaceous material.
1975-	80-Ctgs:	Light gray hard fine-grained sandstone with mica; and gray to black sandy shale frag.
1980-	90-Ctgs:	Black shale, dark gray micaceous, carbonaceous shale, light gray hard fine-grained micaceous sandstone.
1990-	95-Ctgs:	Same and sandy shale.
1995-2005-	Ctgs:	Black shale and sandy shale and dark gray sandy shale with carbonaceous material and mica.
2005-	10-Ctgs:	Black and gray shale and sandy shale, light gray medium-grained hard sandstone.
2010-	15-Ctgs:	Light gray medium-grained sand and sandstone with occasional coarse grains; gray to black shale frag.
2015-	20-Ctgs:	Medium-grained sand and gray and black shale.

Summary

Pennsylvania50'.....to.....2020'

B. L. Fillingame Harbin #1
 NW/4 of SW/4
 Sec. 3—T 16 S—R 12 W
 Fayette County, Ala.

Elev. 387'

Completed, 1942

45-Ctgs:	Chert gravel and sand.
45- 55-Ctgs:	Same and coarse sandstone with pyrite.

Pennsylvanian

55- 60-Ctgs:	Same.
60- 70-Ctgs:	Same and gray soft micaceous shale.
70- 90-Ctgs:	Gray medium-grained micaceous sandstone with pyrite, material from above.
80- 90-Ctgs:	Light gray medium to fine-grained micaceous sand and sandstone, non-calcareous pyrite, brown inclusions. Chert from above.
90- 95-Ctgs:	Light greenish gray medium-grained non-calcareous sandstone with mica; pyrite; brown inclusions, some coarse-grained sand. Chert from above.
95- 100-Ctgs:	Same.
100- 10-Ctgs:	Hard light gray medium-grained micaceous non-calcareous sandstone with carbonaceous material.
110- 20-Ctgs:	Same, with pyrite and frag. of gray shale.

- 120- 37-Ctgs: Hard light gray medium-grained micaceous sandstone.
127- 35-Ctgs: Same. Part with brown claystone ? inclusions.
138- 54-Ctgs: Same and dark gray micaceous sandy shale.
154- 65-Ctgs: Same with increasing amount of shale carrying carbonaceous material.
165- 75-Ctgs: Dark gray micaceous shale and sandy shale with carbonaceous material; frag. of micaceous sandstone.
175- 203-Ctgs: Same.
203- 10-Ctgs: Same. Vein calcite noted.
210- 45-Ctgs: Same.
245- 55-Ctgs: Same with gray hard fine-grained micaceous sandstone.
255- 75-Ctgs: Same.
275- 85-Ctgs: Dense black shale and brownish black micaceous shale; sandstone frag.
285- 95-Ctgs: Same with gray micaceous sandy shale and sandstone.
295- 315-Ctgs: Same.
315- 20-Ctgs: Same and coal.
320- 27-Ctgs: Coal and black shale frag.
327- 35-Ctgs: Gray fine sandy shale, micaceous.
335- 45-Ctgs: Same and black shale.
345- 55-Ctgs: Light gray very fine-grained micaceous sandy shale with abundant siderite ? concretions.
355- 65-Ctgs: Same with fewer concretions.
365- 75-Ctgs: Gray fine sandy shale, micaceous, and gray to black micaceous shale.
375- 85-Ctgs: Same.
385- 400-Ctgs: Light gray and brownish fine-grained micaceous sandstone, part calcareous.
400- 10-Ctgs: Same and gray carbonaceous, micaceous shale and sandy shale and black shale.
410- 20-Ctgs: Gray to black micaceous, carbonaceous shale.
420- 35-Ctgs: Same and brown claystone.
435- 45-Ctgs: Hard light gray fine-grained micaceous, carbonaceous sandstone, brown claystone.
Crinoid stems noted.
445- 50-Ctgs: Black carbonaceous and micaceous shale; brown claystone.
450- 65-Ctgs: Hard gray micaceous fine-grained carbonaceous sandstone and black shale.
Brown claystone.
465- 85-Ctgs: Black shale and gray micaceous sandy shale; brown claystone.
485- 505-Ctgs: Same.
505- 15-Ctgs: Hard light gray fine-grained micaceous, carbonaceous sandstone; black and gray shale.
515- 35-Ctgs: Same.
535- 50-Ctgs: Same.
Crinoid stems noted.

- 550- 60-Ctgs: Hard gray and brown micaceous, carbonaceous fine-grained sandstone, gray and black shale.
- 560- 73-Ctgs: Same.
- 573- 85-Ctgs: Black and gray micaceous shale, part sandy, frag. of sandstone.
- 585- 640-Ctgs: Same.
- 640- 50-Ctgs: Black micaceous shale. Frag. of *pelecypod*, replaced by pyrite.
- 650- 60-Ctgs: Same.
- 660- 70-Ctgs: Same and hard brown fine-grained sandstone.
- 670- 89-Ctgs: Hard brown fine-grained micaceous, carbonaceous sandstone.
- 689- 710-Ctgs: Same and gray sandy micaceous, carbonaceous shale; black shale.
- 710- 30-Ctgs: Same.
- 730- 40-Ctgs: Same with more black shale.
- 740- 50-Ctgs: Same.
- 750- 65-Ctgs: Same. Carbonaceous material noted in shale.
- 765- 75-Ctgs: Same, carbonaceous material noted in shale with less shale.
- 775- 85-Ctgs: Medium-grained gray sand and sandstone, micaceous; gray to black shale frag. with siderite ? concretions.
- 785- 800-Ctgs: Same. Etched quartz grains.
- 800- 10-Ctgs: Hard drab-colored medium to fine-grained sandstone.
- 810- 30-Ctgs: Medium to coarse-grained brownish gray sandstone, non-calcareous.
- 830- 40-Ctgs: Hard brown medium-grained sandstone, light gray fine-grained sandstone and gray micaceous, carbonaceous sandstone frag.
- 840- 60-Ctgs: Black and gray shale and frag. of sandstone.
- 860- 70-Ctgs: Same with mica and brown claystone.
- 870- 80-Ctgs: Same and light gray medium-grained hard sandstone.
- 880- 900-Ctgs: Same and gray hard fine-grained sandstone, and brown concretions, siderite ?
- 900- 20-Ctgs: Light gray hard fine-grained micaceous sandstone; black carbonaceous shale.
- 920- 30-Ctgs: Same with soft gray shale frag. and brown claystone.
- 930- 50-Ctgs: Light gray hard micaceous, carbonaceous fine-grained sandstone, brown claystone; brown carbonaceous shale.
- 950- 70-Ctgs: Light gray hard fine-grained micaceous, carbonaceous sandstone; gray sandy micaceous, carbonaceous shale.
- 970- 90-Ctgs: Gray sandy shale, black carbonaceous shale.
- 990-1000-Ctgs: Same.
- 1000- 20-Ctgs: Light gray hard micaceous fine-grained sandstone with black carbonaceous shale lenses; brown inclusions.
- 1020- 50-Ctgs: Same.
- 1050- 60-Ctgs: Same and brown sandstone and black shale.
- 1060- 70-Ctgs: Gray shale and sandy shale with brown inclusions, siderite ? Black carbonaceous shale.

- 1070- 80-Ctgs: Gray fine-grained micaceous sandstone, black carbonaceous shale.
- 1080- 90-Ctgs: Gray shale and sandy shale, micaceous. Light gray hard fine-grained sandstone, black carbonaceous shale.
- 1090-1130-Ctgs: Same.
- 1130- 50-Ctgs: Same and brown fine-grained sandstone.
- 1150- 60-Ctgs: Same.
- 1160- 90-Ctgs: Light gray hard fine-grained, micaceous sandstone, frag. of gray micaceous, carbonaceous shale.
- 1190-1210-Ctgs: Brown fine-grained sandstone; gray micaceous fine-grained sandstone and sandy shale; black shale.
- 1230- 50-Ctgs: Black shale; brown fine-grained sandstone; gray fine-grained sandstone.
- 1250- 70-Ctgs: Black shale.
- 1270- 90-Ctgs: Same and sandstone frag.
- 1290-1310-Ctgs: Same and hard brown claystone; gray micaceous sandy shale.
- 1310- 25-Ctgs: Light gray medium to fine-grained sand, part etched and part with crystal faces.
- 1325- 35-Ctgs: Gray medium-grained sand and sandstone. Mica.
- 1335- 45-Ctgs: Fine-grained angular and etched sand. Mica.
- 1345- 55-Ctgs: Gray medium to coarse-grained sand, etched and with crystal faces.
- 1355- 65-Ctgs: Medium to fine-grained sand.
- 1365- 75-Ctgs: Quartz pebbles and medium to coarse-grained sand, gray micaceous shale frag.
- 1375- 83-Ctgs: Black and brown micaceous shale and sandy shale.
- 1383- 98-Ctgs: Same with carbonaceous material.
- 1398-1410-Ctgs: Same. Vein calcite noted.
- 1410-1505-Ctgs: Same.
- 1542- 44-Ctgs: Medium-grained angular and etched sand. Frag. of chert pebbles. Black shale frag.
- 1544- 46-Ctgs: Same with frag. of gray micaceous sandstone.
- 1553-Ctgs: Gray fine-grained sand and black micaceous shale frag. Frag. of chert pebbles.
- 1700- 08-Ctgs: Gray medium to fine-grained sandstone; hard shale; chert and other material from above.
- 1708- 12-Ctgs: Same.
- 1712- 16-Ctgs: Medium to fine-grained sand.
- 1716- 20-Ctgs: Same and sandstone frag. Sand grains etched.
- 1720- 33-Ctgs: Same.
- 1733- 35-Ctgs: Medium to coarse-grained etched sand.
- 1743- 47-Ctgs: Same.
- 1747- 51-Ctgs: Medium-grained etched sand.
- 1751- 55-Ctgs: Same and hard sandstone frag.
- 1755- 70-Ctgs: Same.
- 1770- 80-Ctgs: Same, and fine and coarse-grained sand.
- 1780- 90-Ctgs: Gray medium to fine-grained sand and sandstone.

- 1790- 97-Ctgs: Gray hard very fine-grained sandstone with mica and gray sandy shale.
- 1797-1807-Ctgs: Same and dark gray micaceous shale.
- 1807- 17-Ctgs: Same.
- 1817- 27-Ctgs: Gray hard very fine-grained sandstone with darker gray micaceous, carbonaceous shale.
- 1827- 37-Ctgs: Light gray hard fine-grained micaceous sandstone with micaceous, carbonaceous shale lenses.
- 1837- 47-Ctgs: Light gray hard fine-grained micaceous sandstone with micaceous, carbonaceous shale.
- 1847- 52-Ctgs: Light gray hard very fine-grained sandstone with micaceous, carbonaceous shale lenses.
- 1847- 52-Ctgs: Light gray hard very fine-grained sandstone with micaceous, carbonaceous shale lenses.
- 1852- 60-Ctgs: Same and sandy shale.
- 1863- 70-Ctgs: Light gray hard very fine-grained micaceous sandstone; gray micaceous, carbonaceous shale.
- 1870- 80-Ctgs: Medium gray hard fine-grained sandstone and sandy shale with mica; gray micaceous, carbonaceous shale.
- 1880- 90-Ctgs: Same.
- 1890-1900-Ctgs: Same with increasing amount of shale.
- 1900- 20-Ctgs: Same.
- 1920- 30-Ctgs: Hard gray sandy shale with mica. Carbonaceous material.
- 1930- 40-Ctgs: Gray medium-grained sandstone with coarse quartz and pebbles; gray to black hard micaceous, carbonaceous shale and sandy shale.
- 1940- 50-Ctgs: Gray medium-grained sandstone with quartz pebbles, gray micaceous, carbonaceous shale and sandy shale.
- 1950- 60-Ctgs: Same with rounded quartz grains.
- 1960- 70-Ctgs: Gray and brown sandstone, sand with somewhat rounded grains, brown calcareous claystone frag., hard gray micaceous shale, brown carbonaceous material.
- 1970- 80-Ctgs: Light gray hard fine-grained sandstone, brown claystone, brown carbonaceous material, gray hard micaceous, carbonaceous shale, brown sandstone.
- 1980- 90-Ctgs: Light gray fine-grained sand and sandstone with mica. Gray carbonaceous shale frag. noted.
- 1990-2000-Ctgs: Gray very hard fine-grained micaceous sandstone with gray micaceous, carbonaceous shale lenses.
- 2000- 10-Ctgs: Same.
- 2010- 20-Ctgs: Same with black micaceous, carbonaceous shale.
- 2020- 90-Ctgs: Same.
- 2090-2100-Ctgs: Gray to black hard micaceous shale and sandy shale and gray very hard fine-grained sandstone.
- 2100- 40-Ctgs: Same.
- 2140- 50-Ctgs: Same. Calcite noted.
- 2150- 60-Ctgs: Same. Black and gray shale with carbonaceous material.
- 2160-2220-Ctgs: Same.
- 2220- 30-Ctgs: Same with some very hard medium-grained sandstone.

- 2230- 40-Ctgs: Medium to coarse-grained sand and sandstone; hard fine-grained sandstone; gray and black micaceous, carbonaceous shale.
- 2240- 45-Ctgs: Medium to fine-grained sand.
- 2245- 80-Ctgs: Same.
- 2280- 90-Ctgs: Same with occasional coarse quartz grains.
- 2290-2310-Ctgs: Same.
- 2310- 20-Ctgs: Same and frag. of brown sandstone. Frag. of coarse-grained sandstone.
- 2320- 30-Ctgs: Same.
- 2330- 40-Ctgs: Same with quartz pebbles.
- 2340- 50-Ctgs: Coarse-grained sand and quartz pebbles.
- 2350- 60-Ctgs: Medium-grained sand and quartz pebbles.
- 2350- 70-Ctgs: Medium-grained sand and medium gray hard fine-grained sand with carbonaceous material and mica; dark gray sandy shale.
- 2370- 82-Ctgs: Dark gray shale and sandy shale with mica and carbonaceous material.
- 2382- 85-Ctgs: Gray shale and gray hard fine-grained sandstone.
- 2385- 90-Ctgs: Same and dark gray shale.
- 2390-2400-Ctgs: Same with mica.
- 2400- 10-Ctgs: Light gray hard fine-grained micaceous, carbonaceous sandstone, gray carbonaceous shale.
- 2410- 20-Ctgs: Black micaceous, carbonaceous shale, gray hard fine-grained sandstone.
- 2420- 30-Ctgs: Same and brown clay.
- 2430- 45-Ctgs: Black shale and gray very hard fine-grained sandstone.
- 2445- 55-Ctgs: Gray lime, sand and black shale.
Shell frag.
- 2455- 65-Ctgs: Gray lime frag., hard gray sandstone, black micaceous, carbonaceous shale.
- 2465- 80-Ctgs: Gray sand and shale and brown clay.
- 2480- 88-Ctgs: **Dark gray and greenish gray shale**, gray shale, carbonaceous; light gray quartzitic sandstone. Pyrite.
- 2488- 98-Ctgs: Gray medium-grained sand and sandstone, dark red, green and gray shale frag.
- 2515- 25-Ctgs: Gray to black sandy micaceous, carbonaceous shale.
- 2525- 35-Ctgs: Same.
- 2535- 45-Ctgs: Same and lime frag.
- 2545- 55-Ctgs: Same.
- 2555- 65-Ctgs: Black and brown shale and gray sandy shale.
- 2565- 75-Ctgs: Same and pyrite.
- 2575- 85-Ctgs: Gray to black sandy shale with mica, brown shale.
- 2585-2600-Ctgs: Same.
- 2600- 10-Ctgs: Same and gray fine-grained sandstone.
- 2610- 20-Ctgs: Same and gray lime, dark red and gray shale. Green clay.
Crinoid stems.
Fenestella Bryozoa.

Pennington

- 2620- 30-Ctgs: Gray and brown lime, gray, green and dark red clay.
Crinoid stems.
Shell frag.
- 2630- 40-Ctgs: Dark red, gray and green shale; gray and brown lime.
Shell frag.
- 2640- 50-Ctgs: Same, fossiliferous.
Bellerophon sp.
Crinoid stems.
- 2650- 60-Ctgs: Same.
- 2660- 70-Ctgs: Same.
Euphemus sp.
- 2670- 80-Ctgs: Same.
Shell frag.
Crinoid stems.
- 2680- 90-Ctgs: Same.
Small pelecypods and gastropods.
- 2690-2700-Ctgs: Same.
Pelecypod fragments.
- 2700- 10-Ctgs: Dark red, green and gray shale and gray lime.
- 2710- 20-Ctgs: Same.
- 2720- 30-Ctgs: Dark red, green and gray shale; frag. of lime; black shale,
from above ?
Frag. of Euphemus sp.
Other shell frag.
- 2730- 40-Ctgs: Same with more limestone. Green shale with black in-
clusions and **small gastropods**.
- 2740- 50-Ctgs: Green, gray and dark red shale; gray and brown lime,
fossiliferous; greenish gray shale with **gastropods**, phos-
phatized.
Crinoid stems.
Brachiopod spines ?
- 2750- 60-Ctgs: Same, with gray oolitic limestone, green shale with phos-
phatic inclusions.
Orthoceras sp. frag., from above ?
Shell frag.
- 2760- 70-Ctgs: Gray, greenish gray shale, dark red shale, gray lime frag.,
part oolitic.
- 2770- 80-Ctgs: Same with increasing amount of gray and brown lime.
- 2780- 90-Ctgs: Gray and greenish gray shale, gray limestone, part oolitic.
- 2790-2800-Ctgs: Green shale and limestone, gray oolitic and crystalline
limestone; gray fossiliferous shale, reddish shale.
Crinoid stems.
- 2800- 10-Ctgs: Gray crystalline lime and chert, sand ?
- 2810- 20-Ctgs: Black shale, part fossiliferous, pyrite, **crinoid stems**.
- 2820- 30-Ctgs: Gray shale, brown claystone, pyrite.
Crinoid stems.
- 2830- 40-Ctgs: Black shale, dark brown claystone.

2840- 50-Ctgs: Black shale and gray fine-grained calcareous sandstone, part brown stained.

Carter Sand

2850- 55-Ctgs: Black shale and gray hard very calcareous quartzitic sandstone.

2855- 58-Ctgs: Calcareous sandstone, brown lime, black shale.

2858- 68-Ctgs: Same.

2868- 72-Ctgs: Medium-grained angular to sub-angular sand, black shale frag.

2872- 80-Ctgs: Fine-grained sand.

2880- 90-Ctgs: Black shale and small amount of fine sand.

2890-2900-Ctgs: Gray to black shale, brown claystone, pyrite.

Summary

Pennsylvania	45'	to	2610-20'
Pennington and Bangor		at	2610-20'
Carter sand		at	2840-50'

Mr. Bill Dalton

Morris White #1

SW/4 of NE/4

Sec. 21—T 16 S—R 11 W

Fayette County, Ala.

Elev. 536.30

Began Oct. 13, 1944

72- 134-Ctgs: Dark gray micaceous shale and sandy shale, and micaceous sandstone frag.

Pennsylvanian

134- 47-Ctgs: Very hard coarse-grained sandstone.

147-Ctgs: Hard coarse-grained micaceous, carbonaceous sandstone.

220- 50-Ctgs: Dark gray hard fine-grained micaceous sandstone and sandy shale.

250- 80-Ctgs: Dark gray sandy shale with mica.

280- 321-Ctgs: Same and hard sandstone.

321- 25-Ctgs: Coal.

325- 29-Ctgs: Gray to black shale with carbonaceous material and mica.

329- 63-Ctgs: Gray hard very coarse-grained sandstone with mica.

363- 80-Ctgs: Same with very micaceous sandstone frag., and black sandy shale.

380- 95-Ctgs: Black sandy shale with mica, hard medium-grained micaceous sandstone and coarse-grained sandstone.

395- 410-Ctgs: Black micaceous, carbonaceous sandy shale and sandstone.

410- 45-Ctgs: Same.

445- 75-Ctgs: Black micaceous, carbonaceous shale, part sandy.

475- 530-Ctgs: Same and gray shale.

- 530- 36-Ctgs: Greenish gray shale and sandy micaceous shale, black shale and sandstone frag.
- 536- 45-Ctgs: Gray medium to fine-grained hard micaceous sandstone, black shale and sandy micaceous, carbonaceous shale.
- 545- 68-Ctgs: Gray medium to coarse-grained hard micaceous sandstone, black shale and sandy shale.
- 568- 71-Ctgs: Coal, gray to black carbonaceous shale, coarse-grained micaceous sandstone.
- 574- 80-Ctgs: Gray coarse-grained micaceous, carbonaceous sandstone, black sandy micaceous shale.
- 580- 610-Ctgs: Black and gray sandy micaceous shale, micaceous sandstone.
- 610- 40-Ctgs: Same and medium-grained sandstone.
- 640- 70-Ctgs: Same.
- 670- 98-Ctgs: Black sandy micaceous, carbonaceous shale, gray medium-grained micaceous, carbonaceous shale.
- 692- 95-Ctgs: Gray and black shale and sandy shale and gray fine-grained sandstone.
- 695- 720-Ctgs: Same.
- 720- 50-Ctgs: Black and gray micaceous, carbonaceous sandy shale.
- 750- 76-Ctgs: Same and gray medium-grained sandstone, gray clay with siderite concretions.
- 776- 805-Ctgs: Gray hard fine-grained micaceous, carbonaceous sandstone, black sandy shale.
- 805- 80-Ctgs: Same.
- 892- 932-Ctgs: Same and medium-grained micaceous, carbonaceous sandstone.
- 932- 50-Ctgs: Black shale and sandy shale, gray hard medium to fine-grained micaceous, carbonaceous sandstone.
- 950- 72-Ctgs: Gray sandy shale with mica, black micaceous shale. Shell frag. noted.
- 970- 80-Ctgs: Same with sand.
- 980-1012-Ctgs: Same with more shale.
- 1012- 40-Ctgs: Medium-grained sand, gray and black shale with mica.
- 1040- 50-Ctgs: Same.
- 1050- 90-Ctgs: Gray sandy shale and gray and black micaceous shale.
- 1090-1135-Ctgs: Same and medium-grained sand and sandstone.
- 1135- 65-Ctgs: Black shale and medium-grained sand and sandstone.
- 1165-1210-Ctgs: Same.
- 1210- 11-Ctgs: Sandy shale.
- 1211- 41-Ctgs: Medium to coarse-grained sandstone, gray and black micaceous shale.
- 1241- 71-Ctgs: Same.
- 1271- 99-Ctgs: Medium to coarse-grained sandstone, gray to black micaceous shale.
- 1299-1330-Ctgs: Gray coarse-grained sand and sandstone.
- 1330- 32-Ctgs: Same and shale.
- 1332- 62-Ctgs: Gray sandstone, gray shale with siderite concretions.
- 1362- 82-Ctgs: Micaceous sandstone and shale.

- 1382- 98-Ctgs: Gray sandstone with mica, gray shale.
1398-1420-Ctgs: Gray sandy shale with mica.
1420- 40-Ctgs: Same.
1440- 70-Ctgs: Same with coarse sand.
1470-1500-Ctgs: Coarse sand, gray micaceous sandy shale.
1500-Ctgs: Gray sandy shale and coarse sand.
1500- 30-Ctgs: Coarse sand and gray sandy shale.
1530- 50-Ctgs: Same.
1550- 82-Ctgs: Black shale and coarse sand.
1582- 88-Core— Hard black shale, slightly micaceous.
1588-1628-Ctgs: Gray sandy shale and medium-grained sand.
1628- 57-Ctgs: Coarse and medium-grained sandstone, gray to black shale with mica.
1657- 79-Ctgs: Medium to coarse-grained sand and gray sandy shale.
1679- 82-Core— Black hard sandy micaceous shale with sand lenses.
1682-1710-Ctgs: Medium to coarse-grained sand and gray sandy shale.
1710- 30-Ctgs: Dark gray sandy shale and coarse sand.
1766- 96-Ctgs: Dark gray sandy shale.
1796-1826-Ctgs: Same with sand.
1826- 35-Ctgs: Black shale.
1835-Ctgs: Medium to fine-grained sand and shale.
1839- 50-Ctgs: Gray to black sandy shale, sand.
1850- 60-Ctgs: Coarse-grained sand, gray sandy shale.
1860- 70-Ctgs: Medium to coarse-grained sand, sandy shale.
1870- 80-Ctgs: Same.
1890-1900-Ctgs: Gray sandstone, medium to fine-grained gray to black micaceous shale.
1900- 20-Ctgs: Medium to coarse-grained sand and sandstone, gray to black shale.
1920- 30-Ctgs: Same.
1930- 40-Ctgs: Medium to fine-grained sand and shale.
1940- 50-Ctgs: Medium-grained sand and sandstone, and gray micaceous shale.
1950- 60-Ctgs: Same and fine sand.
1960- 80-Ctgs: Same.
1980- 95-Ctgs: Coarse to fine-grained sand and micaceous shale.
1995-2025-Ctgs: Same and gray to black shale.
2025- 70-Ctgs: Same.
2070- 80-Ctgs: Medium-grained sand and sandstone and gray micaceous shale.
2080- 90-Ctgs: Sand and micaceous sandy shale.
2090-2100-Ctgs: Medium to fine-grained sand and sandstone and sandy shale.
2100- 10-Ctgs: Same with mica.
2110- 35-Ctgs: Same.
2135- 50-Ctgs: Medium to fine-grained sand and sandstone, gray micaceous sandy shale.
2150- 60-Ctgs: Same.

- 2190-Ctgs: Medium to coarse-grained sand and sandstone and gray shale.
- 2160- 94-Ctgs: Medium to fine-grained sand and sandstone and micaceous sandy shale.
- 2194-2220-Ctgs: Sandy shale and sandstone.
- 2243-Ctgs: Gray sandy shale and sand.
- 2250-Ctgs: Same.
- 2270-Ctgs: Hard coarse-grained sandstone and gray and black micaceous shale.
- 2280-Ctgs: Same.
- 2477- 90-Ctgs: Gray medium-grained sand and sandstone, dark gray shale and sandy shale.
- 2490-2510-Ctgs: Light gray hard medium-grained micaceous sandstone.
- 2516- 31-Ctgs: Light gray medium-grained sand and sandstone, dark gray to black shale and carbonaceous shale.
- 2531- 61-Ctgs: Same, with coarse-grained sand.
- 2590-Ctgs: Light gray medium-grained and coarse hard sandstone with asphaltic residue; brown hard shale with siderite concretions.
- 2613-Ctgs: Gray hard very coarse-grained sandstone, black hard shale and gray shale with siderite concretions.
- 2628-Ctgs: Gray hard medium-grained sandstone and gray to black shale. Gray shale with siderite concretions; sandy limestone with **crinoid stems**.
- 2706-Ctgs: Brownish black shale, non-calcareous.
- 2720- 25-Ctgs: Medium-grained sand, gray hard fine-grained sandstone and gray to black hard sandy shale. Siderite concretions noted.
- 2771-Ctgs: Gray hard medium-grained sandstone and brownish gray hard shale.
- Gap in samples
- 2901-Ctgs: Reddish brown and greenish shale, hard.

Pennington

- 2912-Ctgs: Reddish-brown, green and gray shale. Lime frag.
- 2917-Ctgs: Same. Sand from up the hole. Bryozoan frag.
- 2925-Ctgs: Same with brownish limestone carrying **crinoid stems**.
- 2929-Ctgs: Red, green and gray shale, limestone frag., sand and shale from up the hole.
- 2934-Ctgs: Same.
- 2939-Ctgs: Same with limestone frag.
- 2944- 61-Ctgs: Same.
- 2966-Ctgs: Same with pink and green lime frag.
- 2973-Ctgs: Same.
- 2982-Ctgs: Green and red shale, gray limestone frag., sand and shale from above.
- 2987-Ctgs: Same with greenish gray limestone.

Prob. Bangor

- 2990-Ctgs: Same with brown cherty limestone.
- 2991- 97-Ctgs: Same.
- 2993-Ctgs: Same with brown cherty limestone.
- 2995-Ctgs: Same with greenish limestone.
- 3000-Ctgs: Medium-grained sand and gray fine-grained micaceous sandstone and sandy shale, and dark gray shale.
- 3025-Ctgs: Same with dark red shale frag.
- 3050-Ctgs: Same with more dark gray shale and sandy shale.
- 3060-Ctgs: Dark gray, dark reddish and green shale, gray limestone, and sand from above.
- 3067-Ctgs: Gray limestone, part oolitic, dark red and green shale.
- 3072-Ctgs: More gray limestone, part oolitic. Dark red and green shale.
Crinoid stems noted.
- 3098-Ctgs: Dark greenish and brownish gray hard lime.
- 3136-Ctgs: Gray and greenish gray limestone, green, dark red and dark gray to black shale.
- 3180-Ctgs: Same and gray hard medium-grained sandstone.
- 3198-Ctgs: Gray limestone, dark red and green shale, medium-grained sand and sandstone.
- 3245-Ctgs: Black splintery shale.
Shells noted.
Crinoid stems.
- 3250-Ctgs: Same with brown lime and sand.
- 3264-Ctgs: Brown hard nodular ? limestone with pyrite.
- 3275-Ctgs: Same and dark red and green lime, and dark red and green shale.
- 3300-Ctgs: Brown lime, dark red shale, black shale; pyrite noted.
- 3325-Ctgs: Black splintery shale, medium-grained sand, gray and dark red shale frag., brown lime frag.
- 3329-Ctgs: Same and fine sand.
- 3332-Ctgs: Black splintery shale, dark brown dense limestone and oolitic limestone frag., medium-grained sand noted.
- 3346-Ctgs: Dark gray and black shale, brown limestone, frag. of medium-grained hard sandstone.
- 3350-Ctgs: Same with increasing amount of brown hard limestone.
- 3355-Ctgs: Black shale and brown hard limestone, medium to coarse sub-angular sand.
- 3360-3370-Ctgs: Same with medium-grained hard sandstone frag.
- 3382-Ctgs: Brown limestone, black shale; dark red lime frag.
- 3390-Ctgs: Medium-grained sandstone frag.; brown limestone, medium to slightly coarse sub-angular sand; gray limestone.
Pelecypod in black shale matrix.
- 3398-3410-Ctgs: Same.
- 3418-Ctgs: Same with increasing amount of brown limestone.
- 3428-3462-Ctgs: Black shale and brown hard limestone and medium to slightly coarse sub-angular and etched sand, from above ?
- 3490-Ctgs: Black shale; **gastropods** noted. Brown limestone.

Summary

Pennsylvanian 72-134' to
 Gap in samples from 2771 to 2901'
 In Pennington at 2901'
 Carter Sand 3150' to 3175'
 Prob. Bangor to 3490' T.D.

Schlumberger log run on the well June 17, 1948.

Amerada Petroleum Corporation
 D. H. Wright #1
 Center NW/4 of SW/4
 Sec. 8—T 15 S—R 10 W
 Fayette County, Ala.

Elev. est. 525 ft.

Began June 26, 1947

Completed September 10, 1947

- 15- 25-Ctgs: Light gray medium to fine-grained micaceous sandstone. Siderite concretions. Dark gray to black micaceous shale. Medium gray shale with siderite concretions.

Pennsylvanian

- 25- 35-Ctgs: Same.
 35- 50-Ctgs: Gray fine-grained sand and shale frag.
 50- 60-Ctgs: Same with mica.
 60- 70-Ctgs: Same.
 70- 80-Ctgs: Same with coal frag.
 80- 90-Ctgs: Gray medium to fine-grained sand with mica. Shale frag.
 90- 100-Ctgs: Light gray medium to fine-grained hard micaceous sandstone; siderite concretions noted and black hard micaceous shale.
 100- 10-Ctgs: Same with fine-grained sand.
 110- 20-Ctgs: Gray medium to fine-grained sand and sandstone and black hard micaceous shale.
 120- 40-Ctgs: Same.
 140- 80-Ctgs: Gray hard fine-grained sandstone and black hard micaceous shale.
 180- 90-Ctgs: Gray fine-grained sandstone, siderite concretions, gray and black hard micaceous shale. Coal frag.
 190- 200-Ctgs: Same with coal.
 200- 10-Ctgs: Gray fine-grained sandstone, gray and black hard micaceous shale; carbonaceous material.
 210- 30-Ctgs: Gray fine-grained sand with mica, dark gray to black hard micaceous shale.
 230- 70-Ctgs: Gray hard fine-grained sandstone with mica, dark gray micaceous, carbonaceous sandy shale, and dark gray to black micaceous shale; sandy shale.

- 270- 300-Ctgs: Light gray hard fine-grained sandstone with mica, and dark gray to black hard micaceous, carbonaceous shale.
- 300- 10-Ctgs: Same with dark gray sandy shale.
- 310- 20-Ctgs: Same.
- 320- 50-Ctgs: Same with brown claystone frag.
- 350- 70-Ctgs: Same with increasing amount of shale.
- 370- 420-Ctgs: Light gray hard fine-grained micaceous sandstone and gray to black micaceous shale.
- 420- 30-Ctgs: Gray hard fine-grained sandstone and gray to black micaceous shale and sandy shale.
- 430- 40-Ctgs: Gray sandy shale and hard fine-grained sandstone and gray and black micaceous, carbonaceous hard shale.
- 440- 60-Ctgs: Brown hard fine-grained sandstone; black shale frag.
- 460- 70-Ctgs: Black shale and coal frag.
- 470- 80-Ctgs: Light gray medium-grained sandstone, black shale and coal frag.
- 480- 500-Ctgs: Same.
- 500- 10-Ctgs: Light gray medium-grained sandstone and coal frag.
- 510- 40-Ctgs: Light gray hard medium-grained sandstone and coal.
- 540- 50-Ctgs: Coal and light gray hard sandstone frag.
- 550- 60-Ctgs: Light gray hard medium-grained sandstone and coal and sandy shale.
- 560- 70-Ctgs: Same with shale.
- 570- 80-Ctgs: Sandstone frag. and gray shale and sandy shale. Coal frag.
- 580- 630-Ctgs: Gray sandy carbonaceous shale, coal frag.
- 630- 40-Ctgs: Gray hard fine-grained sandstone with mica, and gray to black micaceous, carbonaceous shale.
- 640- 50-Ctgs: Dark gray to black sandy micaceous, carbonaceous shale.
- 650- 60-Ctgs: Light gray hard fine-grained sandstone with mica and gray sandy shale, black shale and coal frag.
- 660- 70-Ctgs: Gray hard fine-grained sandstone with mica, and gray to black micaceous, carbonaceous sandy shale.
- 670- 80-Ctgs: Same.
- 680- 740-Ctgs: Light gray hard medium-grained sandstone and dark gray to black micaceous sandy shale.
- 740- 50-Ctgs: Light gray hard fine-grained sandstone with mica and black micaceous, carbonaceous shale.
- 750- 60-Ctgs: Gray shale and coal.
- 760- 70-Ctgs: Gray sandy micaceous shale and coal frag.
- 770- 80-Ctgs: Gray hard medium-grained to fine sandstone with mica.
- 780- 90-Ctgs: Same with sandy shale.
- 790- 810-Ctgs: Gray to black sandy shale with mica and carbonaceous material.
- 810- 40-Ctgs: Same with light gray sandstone frag.
- 840- 80-Ctgs: Gray to black sandy micaceous, carbonaceous shale.
- 880- 910-Ctgs: Black micaceous, carbonaceous shale.
- 910- 20-Ctgs: Dense black micaceous, carbonaceous shale.
- 920- 30-Ctgs: Same with sandstone frag.

- 930- 40-Ctgs: Same with light gray hard sandstone.
 940- 50-Ctgs: Light gray hard sandstone with mica, black shale and sandy shale.
 950- 60-Ctgs: Gray to black shale with mica; sandstone frag.
 960- 70-Ctgs: Dark gray sandy shale and gray sandstone frag.
 970- 90-Ctgs: Dark gray sandy micaceous shale and sandstone frag.
 990-1010-Ctgs: Dark gray sandy shale, coal and sandstone frag.
 1010- 20-Ctgs: Light gray medium-grained sandstone, coal and black micaceous shale.
 1020- 60-Ctgs: Same and sandy shale.
 1060- 70-Ctgs: Gray sandy shale with mica.
 1070-1100-Ctgs: Dark gray micaceous, carbonaceous sandy shale.
 1100- 30-Ctgs: Same and carbonaceous shale.
 1130- 50-Ctgs: Same with coal frag.
 1150- 80-Ctgs: Dark gray to black micaceous, carbonaceous sandy shale.
 1180- 90-Ctgs: Same and light gray sandstone.
 1190-1210-Ctgs: Light gray hard fine-grained sandstone, dark gray sandy micaceous shale and carbonaceous shale.
 1210- 50-Ctgs: Light gray hard medium-grained sandstone, gray to black sandy micaceous shale. Coal frag.
 1250- 80-Ctgs: Light gray hard fine-grained sandstone with mica and sandy shale.
 1280- 90-Ctgs: Gray hard fine-grained micaceous sandstone and dark gray micaceous, carbonaceous shale and sandy shale.
 1290-1300-Ctgs: Same with medium-grained sandstone.
 1300- 10-Ctgs: Same.
 1310- 20-Ctgs: Light gray hard medium-grained sandstone.
 1320- 30-Ctgs: Same with coal frag. and dark gray shale noted.
 1330- 40-Ctgs: Same.
 1340- 50-Ctgs: Same with coarse-grained sand noted.
 1350-1400-Ctgs: Same.
 1400- 10-Ctgs: Light gray hard medium-grained sandstone. Shale noted.
 1410- 20-Ctgs: Same with very coarse sand.
 1420- 30-Ctgs: Same with coal.
 1430- 40-Ctgs: Same.
 1440- 50-Ctgs: Black micaceous, carbonaceous shale and gray sandy shale and light gray medium-grained hard sandstone.
 1450- 60-Ctgs: Same.
 1460- 70-Ctgs: Same and brown slightly calcareous sandstone.
 1470- 80-Ctgs: Black hard micaceous shale and gray sandy shale and light gray hard medium to fine-grained sandstone and brown sandstone frag.
 1480- 90-Ctgs: Same with coal frag.
 1490-1510-Ctgs: Same.
 1510- 20-Ctgs: Light gray hard medium to fine-grained sandstone and shale.
 1520- 60-Ctgs: Same with gray and black micaceous, carbonaceous shale.
 1560- 70-Ctgs: Same with coal frag.

- 1570- 80-Ctgs: Coal and gray and black micaceous, carbonaceous shale, gray hard fine-grained sandstone with mica.
- 1580- 90-Ctgs: Same.
- 1590-1600-Ctgs: Same but with less coal.
- 1600- 10-Ctgs: Same.
- 1610- 40-Ctgs: Very coarse sand and sandstone, gray and black shale and coal.
- 1640- 50-Ctgs: Gray sandy shale and sandstone.
- 1650-1700-Ctgs: Light gray hard fine-grained micaceous sandstone and gray shale.
- 1700- 10-Ctgs: Same with medium-grained sand and sandstone.
- 1710- 20-Ctgs: Same.
- 1720- 30-Ctgs: Light gray medium-grained hard sandstone and sand and gray carbonaceous shale.
- 1730- 40-Ctgs: Light gray medium-grained sandstone and dark gray sandy shale.
- 1740- 70-Ctgs: Same and frag. of coal.
- 1770- 80-Ctgs: Coal and frag of light gray medium to coarse-grained sandstone.
- 1780- 90-Ctgs: Light gray hard medium to coarse-grained sandstone, dark gray sandy shale noted.
- 1790-1800-Ctgs: Same.
- 1800- 10-Ctgs: Light gray medium to coarse-grained sandstone.
- 1810- 20-Ctgs: Same with very coarse sand noted. Shale and coal frag.
- 1820- 30-Ctgs: Gray coarse-grained sandstone and gravel.
- 1830- 60-Ctgs: Light gray coarse-grained sandstone.
- 1860- 90-Ctgs: Light gray coarse-grained sandstone, much like conglomerate.
- 1890-1905-Ctgs: Same with coal.
- 1905- 10-Ctgs: Light gray sandstone, **conglomerate**.
- 1910- 20-Ctgs: Same with shale and coal noted.
- 1920- 25-Ctgs: Light gray medium-grained sandstone, dark gray shale and sandy shale.
- 1925- 30-Ctgs: Same with coarse-grained sandstone.
- 1930- 35-Ctgs: Gray to black hard shale and sandy shale.
- 1935- 55-Ctgs: Same.
- 1955- 65-Ctgs: Same with gray medium-grained sandstone.
- 1965- 75-Ctgs: Same with brown lime with **crinoid stems**.
- 1975- 80-Ctgs: Light gray medium-grained sandstone, brown claystone, dark gray sandy shale; coal frag. from above ?
- 1980- 85-Ctgs: Light gray medium-grained sandstone and gray micaceous sandy shale.
- 1985- 90-Ctgs: Same but with an increasing amount of shale.
- 1990- 95-Ctgs: Gray and green clay with siderite concretions noted, and dark red hard shale; gray medium-grained sandstone and dark gray hard shale. Lime frag. noted.

Pennington

- 1995-2000-Ctgs: Same with green clay.
- 2000- 05-Ctgs: Green, gray and red shale.

- 2005- 10-Ctgs: Same.
 2010- 15-Ctgs: Same, but chiefly material from above.
 2015- 30-Ctgs: Same.
 2030- 35-Ctgs: Brown and gray limestone with **crinoid stems**; red, green and gray shale.

Bangor

- 2035- 40-Ctgs: Brown limestone with **crinoid stems**, green clay.
 2040- 45-Ctgs: Greenish gray hard calcareous sandy shale, green, gray and red clay frag.
 2045- 50-Ctgs: Same.
 2050- 55-Ctgs: Gray and brown limestone with **crinoid stems**.
 2055- 60-Ctgs: Same.
 Other fossils noted.
 2065- 70-Ctgs: Brownish gray limestone with **crinoid stems**.
 2070- 75-Ctgs: Same.
 Brachiopods.
 2075- 80-Ctgs: Gray and brown limestone and green shale.
 2080- 85-Ctgs: Same. Oolitic limestone noted.
 2085-2100-Ctgs: Gray and brown limestone and green fossiliferous shale.
 2100- 10-Ctgs: Same with green fossiliferous shale.
 2110- 15-Ctgs: Same with green clay carrying **crinoid stems**.
 2115- 20-Ctgs: Brown and gray limestone, green and red shale.
 Crinoid stems noted.
 2120- 25-Ctgs: Same.
 2125- 35-Ctgs: Gray and brown limestone. Green shale.
 Crinoid stems noted.
 2135-2160-Ctgs: Same. Green shale carrying **Fenestella Bryozoa**.
 2160- 70-Ctgs: Same with **crinoid stems**.
 2170- 75-Ctgs: Brown and gray limestone, green fossiliferous shale.
 2175- 80-Ctgs: Same.
 Shell frag.
 2180- 85-Ctgs: Gray and brown fossiliferous limestone with chert.
 Crinoid stems.
 2185- 90-Ctgs: Gray and brown limestone; green fossiliferous shale.
 2190-2205-Ctgs: Same.
 2205- 10-Ctgs: Same with brownish black calcareous shale.
 Crinoid stems.
 2210- 15-Ctgs: Gray limestone, green and gray shale.
 Crinoid stems.
 2215- 20-Ctgs: Brown and gray limestone with **crinoid stems**; green fossiliferous shale.
 2220- 25-Ctgs: Brown and gray limestone, fossiliferous; green shale.
 2225- 30-Ctgs: Gray and brown limestone. Green shale.
 2230- 35-Ctgs: Same and **medium-grained brown-stained sandstone**.
 2235- 40-Ctgs: Gray and brown limestone and **medium-grained brown-stained sandstone**; green and gray fossiliferous shale.
 2240- 45-Ctgs: Gray limestone; green and gray shale, part fossiliferous.
 2245- 50-Ctgs: Brownish gray limestone, fossiliferous.

- 2250- 55-Ctgs: Light brownish gray limestone, green and black shale.
2255- 60-Ctgs: Same with **Fenestella Bryozoa** noted.
2260- 65-Ctgs: Same with cherty limestone.
2265- 70-Ctgs: Same.
2270- 75-Ctgs: Same with brown limestone, fossiliferous.
2275- 80-Ctgs: Same with cherty limestone, fossiliferous.
2280- 90-Ctgs: Same.
2290-2310-Ctgs: Same with green and black shale.
2310- 20-Ctgs: Same, fossiliferous.
2320- 30-Ctgs: Gray and brown limestone, fossiliferous, green shale.
Small gastropods noted.
2330- 35-Ctgs: Brown limestone, gray and black shale.
2335- 40-Ctgs: Brown limestone, fossiliferous, and gray and black shale.
2340- 45-Ctgs: Brown limestone with **crinoid stems**; gray and black shale.
2345- 50-Ctgs: Brown limestone, cherty.
Brachiopod frag.
2350- 55-Ctgs: Brown cherty limestone and shale.
2355- 60-Ctgs: Brown limestone, slightly fossiliferous.
2360- 65-Ctgs: Brown fossiliferous limestone, black and green shale.
2365- 75-Ctgs: Brown limestone, with green and black shale.
2375- 80-Ctgs: Same.
Ostracods.
2380- 95-Ctgs: Same. Green fossiliferous shale noted.
2395-2400-Ctgs: Brown and gray limestone and black shale.
2400- 05-Ctgs: Brownish gray limestone.
Crinoid stems noted.
2405- 10-Ctgs: Brown and brownish gray limestone with black shale.
2410- 15-Ctgs: Same.
Crinoid stems.
2415- 20-Ctgs: Same.
2420- 25-Ctgs: Dark brown and gray limestone, black shale; green shale,
from above ?
2425- 30-Ctgs: Brown and gray limestone and black shale.
2430- 40-Ctgs: Same and green shale from above.
2440- 50-Ctgs: Same.
Crinoid stems.
2450- 65-Ctgs: Gray and brown limestone.
2465- 70-Ctgs: Gray and brown limestone, and brown cherty limestone.
2470- 75-Ctgs: Gray and brown limestone, slightly cherty. Black shale.
2475- 85-Ctgs: Gray and brown limestone and black splintery shale.
2485- 90-Ctgs: Gray and brown and greenish limestone, fossiliferous,
black shale, and green shale from above.
2490- 95-Ctgs: Brown and gray limestone, fossiliferous, cherty.
2495-2500-Ctgs: Gray and brown limestone, with green fossiliferous shale,
from above.
2500- 15-Ctgs: Gray and brown limestone, black and gray shale.
2515- 20-Ctgs: Gray and brown limestone, black splintery shale.
2520- 25-Ctgs: Gray and brown limestone, black shale.

- 2530- 45-Ctgs: Gray and brown limestone, green shale, black splintery shale. **Shells** with brown limestone matrix and more black shale.
- 2545- 50-Ctgs: Gray and brown limestone and more black splintery shale.
- 2550- 55-Ctgs: Gray and brown limestone, black and green shale.
- 2555- 60-Ctgs: Gray and brown limestone, gray and green shale.
- 2560- 65-Ctgs: Gray and brown limestone, green and more black shale.
- 2565- 70-Ctgs: Gray and brown limestone, black splintery shale and green shale from above.
- 2570- 75-Ctgs: Gray and brown limestone, black splintery shale, gray and green shale from above.
- 2575- 80-Ctgs: Gray and brown limestone, more black splintery shale, red and green shale from above; black nodular inclusions.
- 2580- 85-Ctgs: Gray and brown limestone and black splintery shale, green and dark red shale from above.
- 2585- 90-Ctgs: Dark brown limestone, gray limestone frag. with **crinoid stems**, black splintery shale.
- 2590- 95-Ctgs: Brown limestone and black shale.
- 2595-2600-Ctgs: Brownish limestone with increasing amount of black splintery shale.
- 2600- 05-Ctgs: Brown limestone with more black dense shale.
- 2605- 10-Ctgs: Brown limestone, gray and black shale.
- 2610- 15-Ctgs: Black splintery shale, brown and gray limestone.
- 2615- 20-Ctgs: Black splintery shale, dark gray shale, brown limestone noted; sandstone frag., from above ?
- 2620- 25-Ctgs: Black splintery shale slightly fossiliferous; dark gray shale; limestone frag.
- 2625- 30-Ctgs: Black, dark gray and greenish shale, lime frag., sandstone frag. noted.
Shell frag.
- 2630- 35-Ctgs: Black splintery shale, dark gray shale. **Euphemus** sp. frag. with green shale matrix. Brown limestone frag.
- 2635- 40-Ctgs: Brown limestone and black shale.
- 2640- 45-Ctgs: Same. **Crinoid stems** in green shale.
- 2645- 50-Ctgs: Brown limestone, black shale noted.
- 2650- 55-Ctgs: Brown limestone, slightly fossiliferous, and black shale.
- 2655- 60-Ctgs: Brown limestone, fossiliferous, slightly phosphatic ?; black fossiliferous shale.
- 2660- 65-Ctgs: Brown limestone, slightly fossiliferous, and black shale.
- 2665- 70-Ctgs: Same and gray shale.
- 2670- 75-Ctgs: Brown limestone and gray and black shale.
- 2675- 80-Ctgs: Brown limestone, fossiliferous, gray and black shale, and greenish gray soft shale.
- 2680- 85-Ctgs: Same.
- 2685- 90-Ctgs: Brown limestone, gray and black shale.
- 2690- 95-Ctgs: Black and gray shale and brown shaly limestone.
- 2695-2700-Ctgs: Brown limestone, black and gray shale.
- 2700- 05-Ctgs: Black shale and brown shaly lime.
- 2705- 10-Ctgs: Same and dark gray shale.

- 2715- 20-Ctgs: Black and dark gray shale, slightly fossiliferous, and shaly lime noted.
2720- 25-Ctgs: Brownish fine-grained sandstone, and black and dark gray shale.
2725- 30-Ctgs: Same.
2730- 35-Ctgs: Same. Sandstone carrying pyrite.
2735- 40-Ctgs: Same.
2740- 45-Ctgs: Same. Black shale, fossiliferous noted.
2745- 50-Ctgs: Black shale, gray and brown limestone frag., sandstone frag.
2750- 55-Ctgs: Black and gray shale and limestone frag.
2755- 60-Ctgs: Same.
2760- 65-Ctgs: Same with brown limestone and gray and black shale.
2765- 70-Ctgs: Same with increasing amount of brown limestone.
2770- 75-Ctgs: Same with more brown limestone, slightly oolitic. Sandstone frag. noted.
2775- 80-Ctgs: Brown limestone, slightly oolitic and black shale. Crinoid stems.
2780- 85-Ctgs: Brown and gray limestone with **crinoid stems**, slightly oolitic. Black shale.
2785- 90-Ctgs: Brown and gray limestone. **Bryozoa noted**. Sandstone frag. Oolitic limestone frag. Black shale.
2790- 95-Ctgs: Same with brown stained sandstone frag. and sandy limestone.
2795-2800-Ctgs: Same.

Prob. Tuscumbia

- 2800- 05-Ctgs: Black shale and brown limestone slightly stained brown.
2805- 10-Ctgs: Gray and brown limestone and black shale.
2810- 15-Ctgs: Brown and gray limestone, black shale and sandstone frag.
2815- 20-Ctgs: Gray and brown limestone and black shale. Chert noted.
2820- 25-Ctgs: Same with more gray limestone and sandstone frag.
2825- 30-Ctgs: Same.
2830- 35-Ctgs: Gray limestone with **bluish chert**.
2835- 40-Ctgs: Same with brown chert, sandstone frag.
2840- 45-Ctgs: Same.
2845- 50-Ctgs: Same with sandstone frag. Black shale from above.
2850- 55-Ctgs: Gray and brown limestone with bluish and brown chert.
2855- 60-Ctgs: Gray and brown limestone with chert. Black shale from above.
2880- 95-Ctgs: Brown limestone and cherty limestone, and gray limestone; black shale from above.
2895-2900-Ctgs: Brown limestone and cherty limestone, and brown chert; black shale from above.
2900- 05-Ctgs: Same.
2905- 10-Ctgs: Same with increasing amount of brown chert.
2910- 15-Ctgs: Same with more brown chert.
2915- 20-Ctgs: Same.
2920- 25-Ctgs: Same with increasing amount of brown chert.
2925- 30-Ctgs: Brown chert and limestone, black shale from above.

- 2930- 35-Ctgs: Brown limestone and brown chert.
 2935- 40-Ctgs: Brown limestone and chert.
 2940- 45-Ctgs: Brown chert and limestone.
 2945- 50-Ctgs: Brown limestone and chert and cherty limestone, black shale from above.
 2950- 55-Ctgs: Same.
 Shell frag. noted.
 2955- 60-Ctgs: Gray and brown limestone and chert.
 2960- 65-Ctgs: Brown limestone, cherty limestone and brown chert; black shale from above.
 2965- 70-Ctgs: Brown limestone, chert and cherty limestone.
 2970- 75-Ctgs: Brown limestone, chert and cherty limestone; black shale from above.
 2975- 80-Ctgs: Brown limestone and brown chert; gray and black shale from above.
 2980-2995-Ctgs: Brown limestone and chert. Shale from above.

Fort Payne

- 2995-3000-Ctgs: Brown and gray limestone with inclusions of fine glauconite ? and green and pink tinged limestone. Brown fine-grained sandstone, brownish black shale with spores.

Chattanooga

- 3000- 05-Ctgs: Same.
 3005- 10-Ctgs: Brown hard fine-grained sandstone and brownish black shale, greenish shale and lime.
 3010- 15-Ctgs: Brownish black shale, pyrite, brown hard fine-grained sandstone, green clay with fine pyrite.
 3015- 20-Ctgs: Same with slightly greenish limestone and greenish shale.

Silurian

- 3020- 25-Ctgs: Gray and greenish limestone, chert and black shale, prob. from above.
 3025- 35-Ctgs: Gray limestone.
 3035- 40-Ctgs: Gray and greenish limestone, slightly glauconitic.
 3040- 45-Ctgs: Greenish gray limestone with chert.
 3045- 55-Ctgs: Greenish gray limestone, slightly glauconitic and with pyrite.
 3055- 60-Ctgs: Gray and greenish limestone.
 3060- 65-Ctgs: Same.
 3065- 70-Ctgs: Greenish gray limestone.
 3070- 80-Ctgs: Same.
 3080- 85-Ctgs: Same with green soft shale.
 3085- 90-Ctgs: Soft green shale, purple shale, from above ?, greenish gray limestone, slightly glauconitic.
 3090- 95-Ctgs: Greenish gray limestone, slightly glauconitic, and greenish shale.
 3095-3100-Ctgs: Greenish gray limestone, slightly glauconitic, and shale. Purple shale noted, from above ?

- 3100- 05-Ctgs: Same.
- 3105- 10-Ctgs: Green fossiliferous, slightly glauconitic limestone, and green shale.
- 3110- 15-Ctgs: Green fossiliferous limestone with glauconite, and green shale.
- 3115- 20-Ctgs: Same and light gray limestone.
- 3120- 25-Ctgs: Same.
- 3125- 30-Ctgs: Yellowish green and gray limestone.
- 3130- 40-Ctgs: Greenish gray and slightly yellowish limestone with **crinoid stems**, and greenish shale.
- 3140- 50-Ctgs: Same with **crinoid stems**.
- 3150- 55-Ctgs: Gray and greenish gray limestone with **crinoid stems**, green shale.
- 3155- 60-Ctgs: Greenish gray limestone with vivid green shale.
- 3160- 75-Ctgs: Same. **Crinoid stems** in limestone.
- 3175- 80-Ctgs: Same with more green shale.
- 3180- 90-Ctgs: Green limestone with **crinoid stems** and green shale.
- 3190- 95-Ctgs: Green limestone, shale and shaly limestone.
- 3195-3200-Ctgs: Green limestone, shale and shaly limestone.
- 3200- 10-Ctgs: Green limestone and shale.
- 3210- 15-Ctgs: Green limestone, shale and shaly limestone.
- 3215- 20-Ctgs: Green limestone with **crinoid stems**, green shale.
- 3220- 25-Ctgs: Green limestone and shale.
- 3225- 30-Ctgs: Green limestone, shale and shaly lime.
- 3230- 35-Ctgs: Green limestone with **crinoid stems** and green shaly lime.
- 3235- 40-Ctgs: Green limestone, shale and shaly limestone.
- 3240- 50-Ctgs: Green limestone and shale.
- 3250- 55-Ctgs: Green limestone and shaly lime with fine mica.
- 3255- 60-Ctgs: Green shaly limestone with **crinoid stems**, and fine mica.
- 3260- 65-Ctgs: Same.
- 3265- 70-Ctgs: Greenish gray limestone and shaly lime.
- 3270- 75-Ctgs: Green and red limestone and shale.
- 3275- 80-Ctgs: Green, gray and pink and red limestone, green shale.
- 3280- 85-Ctgs: Same.
Ostracods noted.
- 3290- 95-Ctgs: Gray, green and red limestone and green shale.
- 3295-3300-Ctgs: Green, gray and pink limestone.
- 3300- 05-Ctgs: Green, gray, pink and red limestone, green shale.
- 3305- 10-Ctgs: Green, gray and pink limestone.
Crinoid stems.
- 3310- 15-Ctgs: Green shale and limestone, pink and gray limestone.
- 3315- 20-Ctgs: Pink, green and dark red limestone. Gray limestone.
- 3320- 25-Ctgs: Same.
- 3325- 30-Ctgs: Red and green limestone.
- 3330- 35-Ctgs: Same.
- 3335- 40-Ctgs: Red, pink and green limestone, fossiliferous; green shale.
- 3340- 45-Ctgs: Green and red limestone and shale.
- 3345- 50-Ctgs: Red, pink and green limestone.

3355-	60-Ctgs:	Pink, red and green limestone, red and green shale.
3360-	65-Ctgs:	Same.
3365-	70-Ctgs:	Green, pink and red limestone.
3370-	75-Ctgs:	Red and green limestone.
3375-	80-Ctgs:	Red, pink and green limestone.
3385-	90-Ctgs:	Pink, green and red limestone, green shale.
3390-	95-Ctgs:	Red and pink limestone and dark red shale with crinoid stems noted; green shale and limestone.
3395-3400-	Ctgs:	Same.
3400-	05-Ctgs:	Red, pink and green limestone and shale.
3405-	10-Ctgs:	Same and yellowish limestone.
3410-	15-Ctgs:	Green, gray and red limestone, green shale.
3415-	20-Ctgs:	Same.
3420-	25-Ctgs:	Gray, pink and green limestone, red limestone and shale.
3425-	30-Ctgs:	Gray, pink and green limestone and shale, dark red shale and lime.
3430-	35-Ctgs:	Gray, green and pink limestone with red shale.
3435-	40-Ctgs:	Green limestone and shale, red and gray and green limestone. Brown phosphatic ? inclusions in gray limestone.
3445-	50-Ctgs:	Gray limestone with phosphatic ? inclusions, dark red and green limestone, green shale and dark red shale.
3450-	55-Ctgs:	Gray, green and pink limestone and gray phosphatic ? limestone, dark red shale.
3455-	60-Ctgs:	Same with gray granular limestone.
3460-	65-Ctgs:	Gray granular limestone.
3465-	70-Ctgs:	Gray granular limestone and material from above.
3470-	80-Ctgs:	Gray granular limestone; green and red limestone and shale from above.
3480-	85-Ctgs:	Gray limestone with black phosphatic inclusions, and material from above.

Ordovician

3485-	90-Ctgs:	Gray granular limestone.
3490-	95-Ctgs:	Gray granular limestone with black phosphatic inclusions.
3495-3500-	Ctgs:	Gray limestone with black phosphatic inclusions.
3500-	05-Ctgs:	Gray granular limestone with black phosphatic ? inclusions.
3505-	45-Ctgs:	Same.
3545-	50-Ctgs:	Same with brown granular limestone.
3550-	60-Ctgs:	Same.
3560-	65-Ctgs:	Same with more brown limestone.
3565-	80-Ctgs:	Same with brown chert noted.
3580-	85-Ctgs:	Gray phosphatic limestone and brown limestone.
3585-	95-Ctgs:	Same.
3595-3600-	Ctgs:	Same. Brown chert noted.
3600-	05-Ctgs:	Same with more brown chert.
3605-	10-Ctgs:	Same.
3610-	15-Ctgs:	Same with more brown limestone.
3615-	20-Ctgs:	Same.
3620-	30-Ctgs:	Black splintery shale, gray limestone with black inclusions, and brown limestone.

- 3630- 35-Ctgs: Same with buff-colored dense limestone.
3635- 55-Ctgs: Same.
3655- 65-Ctgs: Brown and buff-colored limestone.
3665- 70-Ctgs: Buff-colored and brown limestone.
3670- 75-Ctgs: Same with grayish limestone.
3675-3730-Ctgs: Buff-colored, gray and brown dense to finely crystalline limestone.

3730- 35-Ctgs: Gray and brown dense limestone.
3735- 45-Ctgs: Same. Green soft shale noted.
3745- 55-Ctgs: Brown and buff-colored dense limestone. Vivid green shale noted.

3755- 60-Ctgs: Brown and buff-colored dense limestone.
3760- 70-Ctgs: Same. Vivid green brittle shale noted.
3770- 75-Ctgs: Same and greenish gray dense limestone.
3775- 85-Ctgs: Same with brown dense limestone, fossiliferous and cherty limestone.

3785- 95-Ctgs: Brown and greenish gray dense limestone.
3795-3800-Ctgs: Same slightly cherty.
3800- 05-Ctgs: Light greenish gray dense limestone and darker shaly ? limestone.

3805- 10-Ctgs: Greenish gray and brown dense limestone.
3810- 15-Ctgs: Greenish gray and buff-colored dense limestone, and green brittle shale noted.

3815- 20-Ctgs: Light greenish gray and brown dense limestone.
3820- 25-Ctgs: Same.
Ostracods noted.

3825- 30-Ctgs: Light greenish gray and brownish dense limestone.
3830- 45-Ctgs: Greenish gray and brown dense limestone.
3845- 50-Ctgs: Greenish gray and brown dense and finely granular limestone.

3850- 55-Ctgs: Light greenish gray and brown finely crystalline and granular limestone.
3855- 60-Ctgs: Light brown and greenish gray finely crystalline and dense limestone and finely granular limestone.
3860- 65-Ctgs: Light greenish gray dense and finely granular limestone.
3865- 70-Ctgs: Same.
3870- 75-Ctgs: Light gray granular limestone.
3875- 90-Ctgs: Light gray finely crystalline limestone.
3890- 95-Ctgs: Gray granular limestone, part with brown stain, and green shaly lime.
Test for oil—Faint show.

3895-3900-Ctgs: Gray granular limestone with brown stain.
3900- 10-Ctgs: Brown stained granular limestone and brown and gray limestone. Green shale.

3910- 15-Ctgs: Gray granular limestone. Green shale frag.
3915- 25-Ctgs: Gray dense limestone and granular limestone.
3925- 60-Ctgs: Gray granular limestone.
3960- 65-Ctgs: Gray and buff-colored finely granular and dense limestone.

3965-	70-Ctgs:	Buff-colored and greenish dense and finely granular limestone.
3970-	80-Ctgs:	Buff-colored and greenish dense limestone.
3980-	85-Ctgs:	Light greenish gray dense limestone.
3985-	90-Ctgs:	Same with finely granular limestone.
3990-	95-Ctgs:	Same with more finely granular limestone.
3995-4000-	Ctgs:	Same.
4000-	10-Ctgs:	Greenish gray dense limestone.
4010-	15-Ctgs:	Same with finely granular limestone.
4015-	20-Ctgs:	Same with light gray dense limestone.
4020-	35-Ctgs:	Same.
4035-	55-Ctgs:	Light gray and greenish gray dense limestone.
4055-	70-Ctgs:	Greenish gray dense limestone.
4070-	90-Ctgs:	Same.
4090-4110-	Ctgs:	Light gray and slightly greenish gray dense limestone.
4110-	30-Ctgs:	Light greenish gray dense limestone.
4135-	40-Ctgs:	Light gray dense limestone.
4140-	45-Ctgs:	Same.
4145-	50-Ctgs:	Same with light greenish gray finely crystalline limestone.
4150-	90-Ctgs:	Same with an increasing amount of finely crystalline limestone.
4190-4205-	Ctgs:	Buff-colored and light gray dense limestone. Finely crystalline limestone noted.
4205-4230-	Ctgs:	Light gray and greenish gray dense and finely crystalline limestone.
4230-	50-Ctgs:	Light gray dense limestone and light greenish gray finely crystalline dolomite.
4250-	55-Ctgs:	Light greenish gray finely crystalline limestone with light gray dense limestone.
4255-	65-Ctgs:	Light gray and greenish gray finely crystalline limestone.
4265-	70-Ctgs:	Same and buff-colored finely crystalline limestone.
4270-	75-Ctgs:	Light gray and greenish gray dense and finely crystalline limestone.
4275-	80-Ctgs:	Light gray and greenish gray finely crystalline limestone with occasional rounded sand grains inclusions.
4280-	90-Ctgs:	Light gray finely crystalline dolomite.
4290-4315-	Ctgs:	Same with rounded quartz grains as inclusions.
4315-	20-Ctgs:	Light gray and greenish gray finely crystalline limestone.
4320-	25-Ctgs:	Same with occasional rounded sand grains.
4325-	30-Ctgs:	Same and buff-colored limestone.
4330-	40-Ctgs:	Light gray finely crystalline limestone with occasional rounded sand grains as inclusions.
4340-	50-Ctgs:	Light gray and brownish finely crystalline limestone.
4350-	55-Ctgs:	Browns and buff-colored finely crystalline limestone and light greenish finely crystalline limestone.
4355-	60-Ctgs:	Light gray and brownish finely crystalline limestone.
4360-	65-Ctgs:	Same.
4365-	70-Ctgs:	Gray and greenish gray finely crystalline limestone.
4370-	75-Ctgs:	Light gray finely crystalline limestone.

- 4375- 80-Ctgs: Light gray and greenish finely crystalline limestone.
 4380- 95-Ctgs: Gray and greenish gray finely crystalline limestone.
 4395-4400-Ctgs: Gray and brownish dense and finely crystalline limestone with occasional rounded sand grains.
 4400- 10-Ctgs: Light gray dense limestone with occasional rounded sand grains as inclusions.
 4410- 15-Ctgs: Light gray finely crystalline limestone.
 4415- 25-Ctgs: Light gray finely crystalline limestone with inclusions of rounded sand grains.
 4425- 30-Ctgs: Light gray finely crystalline limestone.
 4430- 35-Ctgs: Light gray and greenish finely crystalline limestone.
 4435- 40-Ctgs: Buff-colored and light gray crystalline limestone with occasional inclusions of rounded sand grains, and light greenish finely crystalline limestone.
 4440- 45-Ctgs: Light gray crystalline limestone, with occasional inclusions of rounded sand grains.
 4445- 50-Ctgs: Same.
 4450- 60-Ctgs: Light gray dolomitic limestone.
 4460- 65-Ctgs: Same.
 4465- 80-Ctgs: Same and buff-colored limestone.
 4480- 85-Ctgs: Buff-colored and light brown finely crystalline limestone.
 4485- 90-Ctgs: Same with gray dolomitic limestone.
 4490- 95-Ctgs: Same with brown chert and cherty limestone.
 4495-4500-Ctgs: Same.
 4500- 30-Ctgs: Gray dolomitic limestone.
 4530- 45-Ctgs: Same and brown dense and cherty limestone.
 4545- 50-Ctgs: Gray dolomitic limestone.
 4550- 60-Ctgs: Light gray dolomitic limestone.
 4560- 65-Ctgs: Same.
 4565- 71-Ctgs: Bluish gray dense and finely crystalline limestone.

Summary

Pennsylvanian	to.....	1995'
Pennington and Bangor and Gasper	1995'.....to.....	2720'
Bethel and St. Genevieve	2720'.....to.....	2795'
Tuscumbia and Fort Payne	2795'.....to.....	2995'
Chattanooga	2995'.....to.....	3015'
Silurian	3015'.....to.....	3485'
Ordovician	at.....	3485'

Schlumberger log made on this well.

Wm. H. Pine
 W. A. Baldwin, Tr. #1
 NE/4 of SW/4
 Sec. 20—T 13 S—R 11 W
 Fayette County, Ala.

Elev. 567' D.F.
 Began Nov. 23, 1954
 Completed March 26, 1955

- 0- 10-Ctgs: Coarse sand and gravel.
- 10- 20-Ctgs: Same.
- 20- 30-Ctgs: Chert gravel with **crinoid stems** and coarse sand.
- 30- 35-Ctgs: Chert gravel and coarse sand.
- 35- 45-Ctgs: Gray hard fine-gr. sandstone and sandy shale. Gravel.

Pennsylvanian

- 45- 52-Ctgs: Same.
- 52- 60-Ctgs: Dark gray shale and sandy shale.
- 60- 75-Ctgs: Same.
- 75- 80-Ctgs: Same with gray hard sandstone.
- 80- 85-Ctgs: Same.
- 85- 90-Ctgs: Same with coarse-gr. hard sandstone.
- 90- 98-Ctgs: Same.
- 98- 105-Ctgs: Gray hard sandstone and mic. carb. shale.
- 105- 117-Ctgs: Same.
- 117- 126-Ctgs: Gray hard med.-gr. sandstone.
- 126- 32-Ctgs: Same and shale.
- 132- 40-Ctgs: Black carb. shale and sandstone.
- 140- 45-Ctgs: Gray hard sandy shale with mica.
- 145- 52-Ctgs: Same and fine-gr. sandstone.
- 152- 60-Ctgs: Same.
- 160- 65-Ctgs: Dense black shale; gray clay with small brown concretions.
- 165- 75-Ctgs: Gray hard medium to coarse-gr. sandstone and sandy shale.
- 175- 79-Ctgs: Gray medium to slightly coarse sandstone.
- 179- 87-Ctgs: Med. to fine-gr. sand.
- 187- 92-Ctgs: Gray hard sandstone and sandy shale.
- 192- 99-Ctgs: Med. to slightly coarse sand and sandstone.
- 199- 211-Ctgs: Black mic. carb. shale and sand.
- 211- 18-Ctgs: Same.
- 218- 25-Ctgs: Gray hard med.-gr. sandstone.
- 225- 34-Ctgs: Same with brown claystone.
- 234- 37-Ctgs: Same with more brown claystone, slightly calcareous.
- 237- 259-Ctgs: Same.
- 259- 263-Ctgs: Fine-gr. sand, gray sandy shale and brown claystone. Coal frag.
- 263- 65-Ctgs: Med. to fine-gr. sand, brown claystone.
- 265- 292-Ctgs: Same and sandstone.

- 292- 96-Ctgs: Same and dark gray mic. carb. sandy shale.
296- 300-Ctgs: Dark gray mic. carb. sandy shale and light gray med.-gr. sandstone.
300- 10-Ctgs: Coal and gray mic. carb. sandy shale.
310- 38-Ctgs: Dark gray hard mic. carb. sandy shale.
338- 44-Ctgs: Light gray hard fine-gr. sandstone with mica, and sandy shale.
344- 67-Ctgs: Gray hard med.-gr. sandstone and sand. Dark gray sandy shale.
367- 76-Ctgs: Light gray med.-gr. sandstone. Sandy shale noted.
376- 83-Ctgs: Light gray med.-gr. sandstone and sand.
383- 92-Ctgs: Same and sandy shale.
392- 98-Ctgs: Light gray hard med.-gr. sandstone.
398- 402-Ctgs: Med. to fine-gr. sand.
402- 08-Ctgs: Med. to fine-gr. sandstone and sand.
408- 12-Ctgs: Fine and med.-gr. sand.
412- 19-Ctgs: Gray fine to slightly coarse sand and sandstone.
419- 32-Ctgs: Gray med.-gr. sandstone and sand.
432- 42-Ctgs: Slightly coarse to fine-gr. sand and sandstone.
442- 52-Ctgs: Med. to fine-gr. sand.
452- 58-Ctgs: Gray med.-gr. sand and sandstone.
458- 70-Ctgs: Med. to fine-gr. sand.
470- 76-Ctgs: Same and sandstone.
476- 82-Ctgs: Light gray med.-grained sand and sandstone.
482- 95-Ctgs: Buff-colored hard med. to fine-gr. calcareous sandstone. Med.-gr. sand.
495- 500-Ctgs: Med. to fine-gr. sand.
500- 12-Ctgs: Med.-gr. sand.
512- 23-Ctgs: Med. to fine-gr. sand.
523- 35-Ctgs: Med.-gr. sand.
535- 43-Ctgs: Med.-gr. sand.

Pennsylvanian

- 543- 52-Ctgs: Same and sandstone.
552- 57-Ctgs: Same and fine-gr. sand.
557- 66-Ctgs: Same.
566- 72-Ctgs: Same and dark gray mic. shale frag.
572- 75-Ctgs: Black sandy shale.
575- 90-Ctgs: Same.
590- 95-Ctgs: Dense black shale.
595- 600-Ctgs: Black mic. carb. sandy shale.
600- 05-Ctgs: Same.

605-	10-Ctgs:	Dense black shale.
610-	28-Ctgs:	Same.
628-	30-Ctgs:	Med. to slightly coarse sand.
630-	32-Ctgs:	Same.
632-	40-Ctgs:	Medium coarse and fine-gr. sandstone and mic. sandy shale.
640-	50-Ctgs:	Med. and slightly coarse sand.
650-	65-Ctgs:	Same and fine-gr. sand.
665-	75-Ctgs:	Fine-gr. sand.
675-	81-Ctgs:	Coarse to fine-gr. sand.
681-	708-Ctgs:	Same.
708-	27-Ctgs:	Fine-gr. sand.
727-	744-Ctgs:	Gray hard med. to fine-gr. sandstone and sand.
744-	49-Ctgs:	Fine-gr. sand.
749-	50-Ctgs:	Same and black mic. shale.
750-	799-Ctgs:	Black mic. sandy shale.
799-	808-Ctgs:	Dense black shale and sandy shale.
808-	10-Ctgs:	Same and gray hard fine-gr. sandstone.
810-	16-Ctgs:	Fine-gr. sand.
823-	28-Ctgs:	Gray hard fine-gr. sandstone.
828-	32-Ctgs:	Med. and fine-gr. sand.
832-	49-Ctgs:	Same.
849-	56-Ctgs:	Gray hard med.-gr. sandstone and sand.
856-	63-Ctgs:	Same.
863-	80-Ctgs:	Fine-gr. sand.
880-	896-Ctgs:	Same.
896-	905-Ctgs:	Med. to fine-gr. sand and sandstone and sandy shale.
905-	1000-Ctgs:	Same.
1000-	07-Ctgs:	Coarse and med.-gr. sand.
1007-	1037-Ctgs:	Same.
1037-	70-Ctgs:	Med.-gr. sand, slightly coarse, and fine-gr. sand.
1070-	75-Ctgs:	Med. and fine-gr. sand.
1075-	1081-Ctgs:	Gray hard fine-gr. sandstone, dark gray sandy shale.
1081-	98-Ctgs:	Same and med.-gr. sand.
1098-	1126-Ctgs:	Same.
1126-	32-Ctgs:	Med.-gr. and gray hard fine-gr. sandstone.
1132-	1228-Ctgs:	Same.
1228-	37-Ctgs:	Fine-gr. sand.
1237-	41-Ctgs:	Same and gray sandy shale.
1241-	48-Ctgs:	Same and coal.
1248-	52-Ctgs:	Fine-gr. sand.
1252-	58-Ctgs:	Same and fine-gr. sandstone.
1258-	62-Ctgs:	Fine-gr. sand.
1262-	69-Ctgs:	Same and med.-gr. sand.
1269-	1305-Ctgs:	Med. and fine-gr. sand.

Pennsylvanian

1305-	43-Ctgs:	Fine-gr. sand.
1343-	49-Ctgs:	Same with black carb. shale.
1349-	55-Ctgs:	Same.

- 1355- 69-Ctgs: Fine-gr. sand.
1369- 73-Ctgs: Same with med.-gr. sand.
1373- 78-Ctgs: Very coarse and med.-gr. sand.
1378- 95-Ctgs: Med. and fine-gr. sand.
1395-1417-Ctgs: Coarse to fine-gr. sand.
1417- 39-Ctgs: Gravel and coarse sand.
1439- 49-Ctgs: Medium to coarse sand and gray mic. sandy shale.
1449-1513-Ctgs: Gray mic. sandy shale.
1513- 17-Ctgs: Gray mic. sandy shale.
Crinoid stems.
1517- 27-Ctgs: Same.
1527- 34-Ctgs: Gray mic. sandy shale.
1534- 38-Ctgs: Same with med.-gr. sand.
1538- 51-Ctgs: Same.
1551- 56-Ctgs: Med.-gr. sand, gray clay with siderite concretions. Gray sandy shale.
1556- 61-Ctgs: Black shale, gray sandy shale, gray clay. Brown concretions.
1561- 65-Ctgs: Same.
1565- 79-Ctgs: Light gray very fine-gr. sandstone, black shale and gray clay.
1579- 85-Ctgs: Gray sandy shale, black shale.
1585- 90-Ctgs: Black shale.
1590- 95-Ctgs: Same with gray clay and small brown concretions.
1595- 98-Ctgs: Gray clay and brown siderite concretions. Red clay frag.
1598-1602-Ctgs: Gray and red mottled clay with siderite concretions.

Pennington

- 1602- 10-Ctgs: Same with gray lime frag.
1610- 13-Ctgs: Gray clay with siderite concretions, gray lime, reddish brown and gray mottled clay.
1613- 17-Ctgs: Same with more lime. Gray mic. sandy shale.
1617- 22-Ctgs: Gray lime.
1622- 25-Ctgs: Same and gray fine-gr. sandstone from above.
1625- 34-Ctgs: Dark gray lime and sandy shale.
1634- 38-Ctgs: Light gray limestone.
1638- 43-Ctgs: Same.
1643- 47-Ctgs: Same with fine-gr. sandstone frag.
1647- 51-Ctgs: Light gray limestone.
1651- 59-Ctgs: Same and greenish fine-gr. sandstone.
Brachiopod spines.
1659- 69-Ctgs: Greenish fine-gr. sandstone.
1669- 78-Ctgs: Light gray fine-gr. sandstone, slightly calcareous.
1678- 85-Ctgs: Light gray hard fine-gr. sandstone and sandy shale.
1685- 94-Ctgs: Gray mic. sandy shale.
1694-1701-Ctgs: Same.
1701- 07-Ctgs: Same with light gray lime.
1707- 12-Ctgs: Brown hard dense lime. Chert.
1712- 15-Ctgs: Same with gray oolitic limestone. Part with black oolites.

- 1715- 20-Ctgs: Gray oolitic limestone. Brown limestone, fossiliferous.
 1720- 26-Ctgs: Light gray and brown limestone. Green shale.
 Ostracods.
 Bryozoa.
 1726- 32-Ctgs: Greenish gray limestone, green shale. Reddish brown
 clay. Fine-gr. sandstone frag.
 1732- 36-Ctgs: Light gray limestone and greenish shale.
 1736- 45-Ctgs: Same.
 1745- 52-Ctgs: Light greenish gray limestone.
 1752-1820-Ctgs: Same.
 1820- 29-Ctgs: Gray and brownish limestone with brown chert.
 Crinoid stems.
 1829- 35-Ctgs: Gray and brownish limestone, fossiliferous.
 1835- 62-Ctgs: Same.
 1862- 70-Ctgs: Brown dense limestone.
 1870- 78-Ctgs: Same and dark gray shale.
 1878-1900-Ctgs: Same, fossiliferous.
 1900- 17-Ctgs: Brown dense limestone.
 1917- 22-Ctgs: Gray limestone and dark gray shale.
 Crinoid stems.
 1922- 27-Ctgs: Dark gray and brownish gray limestone and shale.
 1927- 34-Ctgs: Same.
 Crinoid stems.
 1934- 40-Ctgs: Brownish gray limestone and black shale.
 1940- 82-Ctgs: Same.
 1982- 88-Ctgs: Brownish gray fossiliferous limestone and black fossil-
 iferous shale.
 1988- 99-Ctgs: Same.
 1999-2008-Ctgs: Gray limestone and black shaly lime.
 2008- 15-Ctgs: Brownish gray limestone, brown limestone and black
 shale. Brown chert.
 2015-2119-Ctgs: Same.
 2119- 26-Ctgs: Brown limestone and chert and black shale.
 2126- 44-Ctgs: Same.
 2144- 62-Ctgs: Black shale. **Gaspar.**
 2162- 70-Ctgs: Black shale, brown limestone frag.
 2170- 75-Ctgs: Same and brown limestone.
 2175- 84-Ctgs: Same and gray shale.
 2184-2205-Ctgs: Same.
 2205- 09-Ctgs: Gray to brown limestone and dark gray shale.
 2209- 18-Ctgs: Same.
 2218- 25-Ctgs: Dark gray shale and lime.
 2225- 81-Ctgs: Same.
 2281- 89-Ctgs: Dark gray to black shale.
 2289-2300-Ctgs: Same.
 Shell frag.
 2300- 20-Ctgs: Same.
 2320- 44-Ctgs: Black shale.
 2344- 56-Ctgs: Same with fine-grained sandstone stained black.

Bethel ?

- 2356- 70-Ctgs: Same with pyrite. Brown claystone.
2370- 83-Ctgs: Black shale slightly fossiliferous. Pyrite.
2383- 86-Ctgs: Same with gray lime.

St. Genevieve ?

- 2386- 89-Ctgs: Gray limestone.
2389-2400-Ctgs: Gray and greenish shale with sand and small black inclusions. Gray crystalline and sandy limestone with **Fenestella Bryocoa**.
2400- 05-Ctgs: Same with pyrite.
2405- 09-Ctgs: Light greenish gray limestone. Greenish fossiliferous shale.
2409- 16-Ctgs: Light gray hard fossiliferous limestone.

Tuscumbia

- 2416- 30-Ctgs: Same with **Bryozoa**.
2430- 34-Ctgs: Light gray limestone with gray and bluish chert.
2434- 55-Ctgs: Same.
2455- 58-Ctgs: Light gray limestone with chert.
2458- 68-Ctgs: Same.
2468- 74-Ctgs: Light gray limestone.
2474-2525-Ctgs: Same.
2525- 31-Ctgs: Gray to dark gray cherty limestone.
2531- 68-Ctgs: Same.
2568- 73-Ctgs: Same with brown chert.
2573- 79-Ctgs: Same with light gray slightly glau. limestone. Brown chert with glauconite.
2579- 85-Ctgs: Light gray and greenish limestone and chert with fine glauconite.
2585- 90-Ctgs: Light gray and slightly greenish limestone.
2590- 95-Ctgs: Same with chert.
2595- 99-Ctgs: Very light gray cherty limestone.
2599-2607-Ctgs: Same.
2607- 15-Ctgs: Very light gray limestone with fine glauconite. Pyrite.
2615- 22-Ctgs: Light gray and buff-colored limestone with very fine glauconite.
2622- 31-Ctgs: Same and greenish limestone. Very fine glauconite.
2631- 40-Ctgs: Light gray and greenish limestone, fossiliferous. **Fenestella Bryozoa**.
2640- 46-Ctgs: Gray to greenish limestone with chert.
2646- 54-Ctgs: Same with more chert.
2654- 60-Ctgs: Light gray limestone and chert.
2660- 86-Ctgs: Same.
2686-2693-Ctgs: Light gray limestone with fine glauconite, and chert.
2693-2700-Ctgs: Light gray and greenish limestone with glauconite. Chert. Vivid green shale.
2700- 06-Ctgs: Same with green shaly lime.

Silurian

- 2706- 24-Ctgs: Same.
 2724- 30-Ctgs: Same.
 Crinoid stems.
 Bryozoa.
 2730- 37-Ctgs: Same.
 2737- 45-Ctgs: Greenish limestone and shale, fossiliferous.
 2745- 54-Ctgs: Same.
 2754- 70-Ctgs: Same.
 Crinoid stems.
 2770-2850-Ctgs: Same.
 2850- 63-Ctgs: Dark red, yellow and green lime, fossiliferous.
 Crinoid stems.
 2863- 72-Ctgs: Green and yellow lime and shale.
 2872- 78-Ctgs: Light gray and green limestone.
 2878- 94-Ctgs: Light gray, greenish and dark red coarsely crystalline limestone, fossiliferous.
 2894-2927-Ctgs: Same.
 2927- 35-Ctgs: Dark red and greenish limestone.
 2935- 52-Ctgs: Same.
 2952- 62-Ctgs: Same becoming somewhat shaly.
 2962- 73-Ctgs: Same.
 Ostracods.
 2973- 81-Ctgs: Same.
 Crinoid stems and small brachiopods.
 2981- 88-Ctgs: Same.
 2988- 99-Ctgs: Dark red, pinkish and green limestone.
 2999-3008-Ctgs: Same.
 3008- 14-Ctgs: Dark red and green lime.
 3014- 30-Ctgs: Same.
 3030- 40-Ctgs: Same with **crinoid stems**.
 3040- 69-Ctgs: Same.
 3069- 78-Ctgs: Same with vivid green limestone.

Silurian

- 3078- 85-Ctgs: Same.
 3085-3123-Ctgs: Greenish gray limestone and shale.
 3123- 45-Ctgs: Pink, gray and greenish limestone with dark red and green rounded inclusions.
 3145- 53-Ctgs: Gray sandy limestone.
 3153- 65-Ctgs: Gray limestone with black phosphatic inclusions.

Ordovician

- 3165-3202-Ctgs: Same.
 3202- 10-Ctgs: Gray and brown hard limestone with chert.
 3210- 14-Ctgs: Same.
 3214- 20-Ctgs: Gray hard limestone with black phosphatic inclusions, and brown limestone.

3220-	28-Ctgs:	Same with brown chert.
3228-	40-Ctgs:	Same.
3240-	45-Ctgs:	Same with increasing amount of chert.
3245-	66-Ctgs:	Gray cherty limestone with small black inclusions.
3266-	95-Ctgs:	Same.
3295-	97-Ctgs:	Same with light gray to buff-colored limestone.
3297-3302-	Ctgs:	Light brown and gray dense limestone.
3302-	09-Ctgs:	Same with chert.
3309-	17-Ctgs:	Gray and light brown limestone, fossiliferous.
3317-	65-Ctgs:	Same and greenish limestone.
3365-	72-Ctgs:	Gray and light brown dense limestone.
3372-3407-	Ctgs:	Same.
3407-	15-Ctgs:	Greenish gray and brown dense limestone.
3415-	37-Ctgs:	Light brown and gray limestone.
3437-	43-Ctgs:	Brown dense limestone and chert.
3443-	48-Ctgs:	Same and gray limestone. Black River.
3448-	53-Ctgs:	Gray and brown dense limestone.
3453-	69-Ctgs:	Same.
3469-	78-Ctgs:	Light greenish gray and brown dense limestone.
3478-	93-Ctgs:	Same.
3493-3500-	Ctgs:	Greenish gray dense limestone.
3500-	45-Ctgs:	Light greenish gray dense limestone.
3545-	50-Ctgs:	Same and brown dense limestone.
3550-	81-Ctgs:	Same.
3581-	85-Ctgs:	Light greenish gray dense limestone.
3585-	89-Ctgs:	Light gray dense and finely granular limestone.
3589-3615-	Ctgs:	Same.
3615-	22-Ctgs:	Light gray finely granular limestone.
3622-	29-Ctgs:	Light gray and brown dense and finely granular limestone.
3629-	34-Ctgs:	Same.
3634-3690-	Ctgs:	Light gray finely granular limestone and dolomite.
3690-	98-Ctgs:	Same. Rounded sand grains noted.
3698-3710-	Ctgs:	Light gray dolomite and limestone.
3710-	18-Ctgs:	Same.
3718-	25-Ctgs:	Same with rounded sand grains.
3725-	30-Ctgs:	Same with rounded sand grains noted.

Summary

Pennsylvanian	at	35- 45'
Pennington and Bangor	at	1598-1602'
Gasper, Bethel and St. Genevieve	2144' to	2409- 16'
Tuscumbia	at	2409- 15'
Silurian	at	2700- 06'
Ordovician	at	3153- 65'

FRANKLIN COUNTY

E. O. Heath

Hester #1

SE/4 of SW/4

Sec. 4—T 6 S—R 12 W

Franklin County, Ala.

Elev. approximately 770 ft.

Began August 24, 1940.

15-Ctgs: Dark gray fossiliferous limestone. Chert gravel.

Bangor

25-Ctgs: Dark gray fossiliferous limestone.
Crinoid stems noted.

40-Ctgs: Medium gray crystalline limestone.
Crinoid stems.
Shell frag.
Fenestella Bryozoa.

50-Ctgs: Medium gray fossiliferous finely crystalline limestone with
black inclusions. Frag. of black shale.
Ostracods.
Crinoid stems.
Fenestella Bryozoa.

60-Ctgs: Medium gray crystalline limestone. Pyrite. Chert gravel.
Bryozoa frag. abundant.
Fenestella Bryozoa.
Crinoid stems.

75-Ctgs: Gray fossiliferous limestone. Chert.

90-Ctgs: Medium gray limestone.
Crinoid stems.
Ostracods.
Shell frag.

100-Ctgs: Light gray oolitic limestone.
Fenestella Bryozoa.
Crinoid stems.

110-Ctgs: Light gray fossiliferous limestone, part finely crystalline.
Small brachiopod.
Crinoid stems.

120-Ctgs: Light gray crystalline and dense fossiliferous limestone.
Gray shale frag.
Crinoid stems.
Fenestella Bryozoa.
Brachiopod frag.
Ostracods.

- 135-Ctgs: Light gray fossiliferous limestone.
Shell frag.
Bryozoa.
Fenestella Bryozoa.
Small brachiopods.
- 150-Ctgs: Gray fossiliferous limestone, slightly sandy ?
- 160- ?-Ctgs: Brown crystalline limestone, fossiliferous. Dark gray shale frag.
- 170-Ctgs: Light gray fine-grained sand.

Hartselle

- 185-Ctgs: Medium to fine-grained sand and sandstone with brown stain.
- 200-Ctgs: Light gray fine-grained sandstone with asphaltic residue; light greenish gray shale noted. Limestone from above ? Crinoid stems.
- 215-Ctgs: Fine-grained sand with asphaltic residue. Limestone from above ?
Oolitic sandy limestone with asphaltic residue.
- 230-Ctgs: Light gray fine-grained sand with etched faces.
- 240-Ctgs: Light gray medium and fine-grained sand and sandstone.
- 250-Ctgs: Light gray fine-grained sandstone.
- 260-Ctgs: Same and dark gray shale.
- 270-Ctgs: Light gray medium to coarse-grained sand with crystal and etched faces.
- 280-Ctgs: Light gray very fine-grained sand and sandstone. Dark gray to black shale frag.
- 290-Ctgs: Light greenish gray fine-grained sandstone with pyrite.
Gray shale with carbonaceous material.
- 300-Ctgs: Light gray fine-grained sand.
- 315-Ctgs: Same.
- 330-Ctgs: Light greenish gray hard fine-grained sandstone. Pyrite.
Gray micaceous, carbonaceous shale.
- 350-Ctgs: Gray limestone.

Golconda or Gasper

- 360-Ctgs: Dark gray carbonaceous shale. Pyrite.
- 370-Ctgs: Dark brownish gray oolitic limestone and dark gray shale.
Pyrite.
- 380-Ctgs: Same.
- 400-Ctgs: Gray carbonaceous shale, part fossiliferous; hard brown limestone.
- 410-Ctgs: Same and greenish gray carbonaceous shale.
- 420-Ctgs: Gray carbonaceous shale; brown limestone.
Fenestella Bryozoa from above ?
Other Bryozoa.
Fair show of gas at 421'.

- 430-Ctgs: Gray carbonaceous, fossiliferous shale. Vein calcite. Pyrite.
Shells. Brown limestone.
- 440-Ctgs: Same and vein calcite. Pyrite.
 Crinoid stems.
 Pentagonal crinoid plates ?
 Shell frag.
 Small gastropods.
- 450-Ctgs: Gray shale with carbonaceous material, vein calcite; brownish fossiliferous limestone frag. Pyrite.
 Crinoid stems.
- 460-Ctgs: Same with increasing amount of vein calcite.
 Euphemus sp.
- 470-Ctgs: Gray shale, vein calcite. Pyrite. Brown claystone; brown limestone frag.
 Crinoid stems.
- 480-Ctgs: Same. Gray shale carries carbonaceous material.
- 490-Ctgs: Same with increasing amount of brown claystone, and frag. of gray limestone.
- 500-Ctgs: Same and more gray and brown limestone.
 Crinoid stems abundant.
 Small gastropods.
- 510-Ctgs: Gray carbonaceous shale; brown claystone; brown limestone. Black concretions. Brown claystone carrying black concretions. Pyrite.
 Pelecypods.
 Small gastropods.
 Crinoid stems.
 Ostracods.
 Euphemus sp.
 Trepostira ?
- 520-Ctgs: Gray shale; pyrite; black concretions.
 Euphemus.
- 530-Ctgs: Light gray finely crystalline limestone; gray shale. Part of limestone stained brown, and part with asphaltic residue; part of limestone oolitic.
- 540-Ctgs: Gray shale; fossils noted. Gray and brown limestone. Gray limestone carrying black concretions; gray shale with **Fenestella Bryozoa**.
- 550-Ctgs: Gray hard fine-grained closely cemented sandstone, part with asphaltic residue, associated with gray shale. Pyrite.
- Prob. Bethel**
- 555-Ctgs: Medium-grained to coarse sand and sandstone with asphaltic residue; black and dark gray micaceous shale. Frag. of limestone and **crinoid stems**.
- 560-Ctgs: Gray limestone, shale and sand.
- 570-Ctgs: Greenish gray and light brown limestone.
- 580-Ctgs: Light gray chert and cherty limestone, part stained brown.

Tuscumbia ?

- 590-Ctgs: Light gray coarsely crystalline limestone.
Crinoid stems noted.
- 600-Ctgs: Light gray cherty and coarsely crystalline limestone, part with brown stain.
- 610-Ctgs: Same, with increasing amount of white chert.
- 620-Ctgs: Same.
- 640-Ctgs: Brown coarsely crystalline limestone, part with brown stain. White chert.
Crinoid stems noted.
- 655-Ctgs: Brown crystalline limestone. Chert.
- 660-Ctgs: Brown crystalline limestone, part with brown stain.
- 670-Ctgs: Same.
- 680-Ctgs: Brown coarsely crystalline limestone. Shale from above.
- 690-Ctgs: Same, stained brown.
Crinoid stems.
- 700-Ctgs: Light brown limestone and cherty limestone.
- 710-Ctgs: Light brown crystalline limestone and chert.
- 715-Ctgs: Same with bluish chert. Limestone with **Fenestella Bryozoa**.
- 720-Ctgs: Brown coarsely crystalline limestone with brown stain.
- 725-Ctgs: Light brown coarsely crystalline limestone.
- 730-Ctgs: Light brownish gray coarsely crystalline limestone.
- 735-Ctgs: Same; limestone with **Fenestella Bryozoa**.
- 740-Ctgs: Same. Pyrite.
- 745-Ctgs: Same.
- 750-Ctgs: Light brown chert.

Prob. Fort Payne

- 755-Ctgs: Brownish gray limestone and chert.
- 760-Ctgs: Same and brown chert.
- 770-Ctgs: Light brown limestone and bluish chert.
- 780-Ctgs: Grayish brown limestone and chert.
- 790-Ctgs: Same.
- 800-Ctgs: Same and bluish chert.
- 810- 30-Ctgs: Same.
- 840-Ctgs: Grayish brown limestone and brown chert.
- 850- 60-Ctgs: Same.
- 870-Ctgs: Brown limestone and brown and bluish chert.
- 880-Ctgs: Same.
- 890-Ctgs: Brown limestone and chert.
- 900-Ctgs: Brown chert and limestone and gray limestone.
- 920-Ctgs: Brown limestone and chert and gray limestone.
- 925-Ctgs: Same.
- 930-Ctgs: Brown and gray limestone.
- 935-Ctgs: Dark brown limestone.
- 940-Ctgs: Same.
- 942-Ctgs: Dark brown and grayish brown limestone carrying glauconite.

- 950-Ctgs: Dark brown slightly calcareous shale; chert with green inclusions.
 952-Ctgs: Dark brown slightly calcareous shale, part with glauconite. Light gray limestone and chert.
 955-Ctgs: Dark brownish black shale with spores; greenish fine-grained sandstone carrying pyrite; greenish sandy shale. Hard brown sandstone. Light gray limestone and chert.

Chattanooga

- 960-Ctgs: Brownish black shale with spores; brown quartzitic sandstone.
 Conodont frag. noted.
 965-Ctgs: Brownish black shale.

Chattanooga Shale

Summary

Bangor	to	160'
Hartselle	170' to	330'
Golconda or Gasper	350' to	540'
Prob. Bethel	550' to	570'
Tuscumbia	570' to	955'
and Fort Payne		
Chattanooga Shales	955' to	965'

We did not get deepest samples from this well. Total depth 2005 feet.

Mr. George B. Conover
 Fee #1
 SW/4 of NE/4
 Sec. 34—T 8 S—R 11 W
 Franklin County, Ala.

Elev. 1000'
 Began December 2, 1947
 Completed January 11, 1948

- 20- 25-Ctgs: Gray medium to coarse-grained sand and sandstone.

Pennsylvanian

- 25- 35-Ctgs: Same with fine-grained sandstone.
 35- 60-Ctgs: Same with slightly micaceous sandstone.
 60- 65-Ctgs: Same with very coarse sand noted.
 65- 70-Ctgs: Gray fine-grained micaceous sandstone with coal.
 70- 75-Ctgs: Gray medium-grained micaceous sandstone and brown sandstone.
 75- 80-Ctgs: Same with pinkish sandstone.
 80- 115-Ctgs: Same with brown sandstone.
 115- 35-Ctgs: Medium to coarse-grained sand, pink sandstone noted.

- 505- 10-Ctgs: Same.
Crinoid stems.
- 510- 20-Ctgs: Light gray limestone with **crinoid stems**, dark red and green shale.
- 520- 25-Ctgs: Same with oolitic limestone noted.
- 525- 35-Ctgs: Same with large **crinoid stems**.
- 535- 45-Ctgs: Same with slightly cherty limestone.
- 545- 50-Ctgs: Same with greenish gray shaly and granular limestone.
- 550- 60-Ctgs: Greenish gray limestone with **crinoid stems**.
Brachiopod valve noted.
- 560- 70-Ctgs: Gray oolitic limestone with **crinoid stems**.
- 570- 75-Ctgs: Same with green soft shale.
- 575- 80-Ctgs: Same with shaly lime.
- 580- 85-Ctgs: Gray limestone with **crinoid stems**. Green soft shale.
- 585- 90-Ctgs: Same. Part of limestone oolitic.
- 590- 95-Ctgs: Gray limestone, part oolitic.
- 595- 600-Ctgs: Same.
Crinoid stems.
- 600- 10-Ctgs: Light gray oolitic limestone.
- 610- 15-Ctgs: Light gray crystalline limestone.
- 615- 20-Ctgs: Same.
Brachiopod noted.
- 620- 30-Ctgs: Gray crystalline and oolitic limestone.
Crinoid stems.
- 630- 35-Ctgs: Same with increasing amount of oolitic limestone.
Endothyra sp.
- 640- 45-Ctgs: Same.
Small gastropods.
- 645- 50-Ctgs: Same.
- 650- 55-Ctgs: Same. Light gray slightly oolitic limestone.
- 655- 60-Ctgs: Same and greenish gray dense limestone.
- 660- 65-Ctgs: Greenish gray dense limestone.
- 665- 70-Ctgs: Light gray limestone with **crinoid stems**.
Ostracods noted.
Endothyra sp.
- 670- 95-Ctgs: Light gray oolitic limestone.
Crinoid stems.
Small gastropods noted.
Endothyra sp.
- 695- 705-Ctgs: Same with **crinoid stems** and **Ostracods**.
- 705- 15-Ctgs: Light gray limestone, part oolitic.
Crinoid stems and small gastropods.
- 715- 20-Ctgs: Same with small **brachiopods**.
- 720- 25-Ctgs: Light gray oolitic limestone, fossiliferous.
- 725- 35-Ctgs: Same.
Small gastropods.
Endothyra sp.

- 735- 40-Ctgs: Gray fossiliferous limestone, part oolitic.
Crinoid stems.
Ostracods.
Bryozoa.
- 740- 55-Ctgs: Gray oolitic limestone with **crinoid stems**, fossiliferous.
- 755- 60-Ctgs: Gray oolitic and very fossiliferous limestone.
- 760- 75-Ctgs: Same with brown granular limestone.
- 775- 800-Ctgs: Gray fossiliferous limestone, brown granular limestone noted.
- 800- 10-Ctgs: Gray granular limestone with **crinoid stems**.
- 810- 25-Ctgs: Same slightly cherty.
- 825- 30-Ctgs: Same with bluish chert.
- 830- 35-Ctgs: Same with **Fenestella Bryozoa** noted.
- 835- 40-Ctgs: Same.
- 840- 45-Ctgs: Same with gray shale frag., very fossiliferous.
- 845- 55-Ctgs: Gray crystalline and granular limestone.
- 855- 60-Ctgs: Gray fossiliferous and granular limestone.
Archimedes frag.
- 860- 65-Ctgs: Same with gray soft shale.
Bryozoa.
- 865- 70-Ctgs: Same with more gray soft shale.
Bryozoa.
- 870- 85-Ctgs: Dark gray soft shale and gray limestone.
Fenestella Bryozoa and other fossils.
- 885- 90-Ctgs: Gray to black shale and gray and brown limestone, fossiliferous.
- 890- 900-Ctgs: Same with more limestone.
- 900- 05-Ctgs: Same with increasing amount of brown limestone.
- 905- 15-Ctgs: Same with an abundance of **Bryozoa; crinoid stems**.
- 915- 20-Ctgs: Gray to black shale and gray and brown limestone.
Crinoid stems and Bryozoa.
- 920- 25-Ctgs: Same with gray dense and granular limestone.
- 925- 30-Ctgs: Gray and brown limestone, part oolitic, fossiliferous.
Gray and black shale.
- 930- 45-Ctgs: Gray oolitic limestone and shale.
- 945- 50-Ctgs: Gray to brownish oolitic limestone.
- 950- 60-Ctgs: Same.
Shell frag noted.
- 960- 65-Ctgs: Same with gray granular and dense limestone and gray shale.
- 965- 70-Ctgs: Gray fossiliferous limestone and gray shale.
- 970- 75-Ctgs: Same.
Fenestella Bryozoa noted.
- 975- 85-Ctgs: Gray and brown fossiliferous limestone, slightly oolitic, dark gray shale and dark gray dense limestone.
- 985- 95-Ctgs: Brown oolitic and dense limestone, dark gray shale.
- 995-1005-Ctgs: Gray shale and limy shale.
- 1005- 10-Ctgs: Gray limy shale.
- 1010- 20-Ctgs: Same with dark brown limestone.
- 1020- 25-Ctgs: Same with gray medium-grained sandstone and sand.

Hartselle

- 1025- 30-Ctgs: Same.
- 1030- 35-Ctgs: Medium-grained sand and sandstone with brown stain.
Test for Oil: Slight show of "dead" oil.
- 1035- 40-Ctgs: Medium-grained sand and sandstone, part with brown stain.
- 1040- 45-Ctgs: Gray medium-grained sandstone, part with brown stain.
Test for oil: Slight show of "dead" oil.
- 1045- 50-Ctgs: Gray medium-grained sand and sandstone, slightly brown stained.
- 1050- 60-Ctgs: Same with fine-grained sand.
- 1060- 65-Ctgs: Gray hard medium to fine-grained sandstone, slightly brown stained.
- 1065- 70-Ctgs: Gray medium to fine-grained sandstone.
- 1070- 75-Ctgs: Same with **crinoid stems** and asphaltic stain.
- 1075- 80-Ctgs: Same with shale.
- 1080- 90-Ctgs: Gray medium to fine-grained sandstone and shale.
- 1090- 95-Ctgs: Gray hard medium to fine-grained sandstone and dark gray shale and sandy shale.
- 1095-1100-Ctgs: Gray hard medium to fine-grained sandstone and sandy micaceous shale.
- 1100- 10-Ctgs: Same with brown claystone.
- 1110- 25-Ctgs: Same and pyrite.
- 1125- 30-Ctgs: Gray hard fine-grained sandstone and sandy shale.
- 1130- 35-Ctgs: Same with carb. shale.
- 1135- 40-Ctgs: Gray sandy shale and carbonaceous shale. Brown claystone. Pyrite.
- 1140- 45-Ctgs: Gray sandy shale and carbonaceous shale.
- 1145- 50-Ctgs: Same with brown claystone.
- 1150- 60-Ctgs: Same with black shale.
- 1160- 65-Ctgs: Same with brown claystone and pyrite.
- 1165- 75-Ctgs: Same with increasing amount of shale, slightly fossiliferous.
- 1175- 80-Ctgs: Black shale and dark gray sandy shale, brown claystone.
- 1185- 90-Ctgs: Same with gray medium to fine-grained sandstone.
- 1190-1210-Ctgs: Same with brown lime noted.
Shell frag.
- 1210- 20-Ctgs: Same with brown claystone.
- 1220- 25-Ctgs: Gray and black shale with carbonaceous material, slightly fossiliferous, and sandy shale.

Gaspar ?

- 1225- 50-Ctgs: Same with brown claystone.
- 1250- 70-Ctgs: Black and gray shale and brown claystone.
- 1270- 95-Ctgs: Same with sandy shale.
- 1295-1300-Ctgs: Black shale and brown fossiliferous limestone.
- 1300- 05-Ctgs: Same with black fossiliferous shale.
- 1305- 20-Ctgs: Black shale, fossiliferous, and brown fossiliferous limestone, gray hard sandstone frag.

- 1320- 35-Ctgs: Black dense shale, fossiliferous, brown and gray limestone.
Sandstone frag. **Ostracods**. **Shells** replaced by pyrite.
- 1335- 45-Ctgs: Black dense shale.
- 1345- 50-Ctgs: Same with gray shale.
- 1350- 60-Ctgs: Same with brown limestone with large **crinoid stems**.
Oolitic limestone noted.
- 1360- 65-Ctgs: Same with **crinoid stems**.
Fenestella Bryozoa.
- 1365- 70-Ctgs: Same with hard calcareous sandstone frag.

Prob. Bethel

- 1370- 80-Ctgs: Same.
- 1380- 85-Ctgs: Greenish gray limestone and shale.
Crinoid stems.
Shell frag. and Bryozoa.

St. Genevieve

- 1385- 95-Ctgs: Same with greenish shale.
- 1395-1405-Ctgs: Gray limestone with slight brownish stain. Chert noted.
Bryozoa.

Prob. Tuscumbia

- 1405- 10-Ctgs: Same with more brown stain.
Shell frag.
- 1410-1435-Ctgs: Same with white chert noted.
- 1435- 40-Ctgs: Same.
Endothyra sp.
- 1440- 55-Ctgs: Same.
- 1455- 65-Ctgs: Gray fossiliferous limestone with brown stain.
- 1465- 75-Ctgs: Same.
- 1475-1495-Ctgs: Gray limestone with brown stain.
- 1495-1500-Ctgs: Gray limestone and bluish chert.

Prob. Fort Payne

- 1500- 10-Ctgs: Same.
- 1510- 25-Ctgs: Same with bluish cherty limestone.
- 1525- 40-Ctgs: Same with brown limestone.
- 1540- 60-Ctgs: Same with brown chert.
- 1560-1600-Ctgs: Brown chert, gray and brown limestone.

Fort Payne**Summary**

Pennsylvanian	430-35'	
Bangor	430-35'	to 1020'
Hartselle	1020'	to 1220'±
Gasper	1220'±	to 1365'
Bethel	1365'	to 1380'
St. Genevieve	1380'	to 1395'
Tuscumbia	1395'	to 1495'
Fort Payne	1495'	to 1600' T.D.

Ogg & Easton
 Audie Harris #1
 SE/4 of SW/4
 Sec. 267—T 8 S—R 12 W
 Franklin County, Ala.

Elev. 950'
 Began January 31, 1949
 Completed April 15, 1949

- 40- 50-Ctgs: Medium-grained sand and sandstone and brown hard sandstone.

Pennsylvanian

- 50- 60-Ctgs: Medium to fine-grained sand. Mica noted.
 60- 100-Ctgs: Same.
 100- 10-Ctgs: Same.

Gap

- 170- 80-Ctgs: Gray hard medium to fine-grained micaceous sandstone and brown claystone.
 180- 90-Ctgs: Same with somewhat coarser sand.
 190- 200-Ctgs: Gray hard medium to fine-grained sand and sandstone with increasing amount of claystone.
 200- 10-Ctgs: Same with gray hard sandy micaceous shale.
 210- 20-Ctgs: Same with increasing amount of gray micaceous, carbonaceous hard shale.
 220- 30-Ctgs: Same.
 230- 40-Ctgs: Same with gravelly sand.
 240- 50-Ctgs: Same.
 250- 60-Ctgs: Coarse to gravelly sand, medium-grained sand and sandstone and gray micaceous, carbonaceous sandy shale.
 260- 70-Ctgs: Gray hard micaceous sandstone and sandy shale, slightly coarse-grained hard sandstone.
 270- 80-Ctgs: Same.
 280- 90-Ctgs: Medium to coarse-grained sand.
 290- 300-Ctgs: Same.
 310- 20-Ctgs: Same and gray micaceous, carbonaceous shale.
 330- 40-Ctgs: Same.
 340- 50-Ctgs: Gray hard fine-grained micaceous, carbonaceous sandstone and sandy shale and black micaceous, carbonaceous shale.
 350- 60-Ctgs: Same with gray hard medium-grained sandstone and brown claystone with siderite ?
 360- 70-Ctgs: Gray hard medium-grained sandstone and sand and sandy shale. Brown claystone.
 370- 80-Ctgs: Gray hard medium to fine-grained sandstone and sand with mica and pyrite.
 380- 90-Ctgs: Same with gray micaceous, carbonaceous sandy shale.
 390- 400-Ctgs: Same.

- 400- 10-Ctgs: Gray micaceous, carbonaceous sandy shale, brown claystone and medium-grained sand.
410- 30-Ctgs: Same.
430- 40-Ctgs: Same with increasing amount of dark gray micaceous, carbonaceous sandy shale.
440- 50-Ctgs: Gray hard fine-grained sandstone and sandy carbonaceous shale, slightly fossiliferous.
Shell frag.
450- 60-Ctgs: Gray hard medium to fine-grained sandstone and carbonaceous sandy shale, slightly fossiliferous. Small brown concretions in gray shale.
460- 70-Ctgs: Fine-grained sand.
470- 80-Ctgs: Gray shale with abundant siderite concretions, dark gray to black carbonaceous shale and medium-grained sandstone noted.
480- 90-Ctgs: Green and light gray lime, part of limestone dense oolitic limestone noted. Green and dark red shale, gray waxy shale with siderite concretions.

Bangor and Pennington

- Crinoid stems.
490- 500-Ctgs: Gray and greenish gray slightly cavernous limestone with brown stain and oolitic limestone.
Crinoid stems.
Chloroform test gave oil show at 490-510'.
500- 20-Ctgs: Same.
520- 30-Ctgs: Greenish gray crystalline limestone, dark red, green and gray shale.
530- 40-Ctgs: Same with fossiliferous limestone and gray oolitic limestone.
540- 50-Ctgs: Light gray crystalline and oolitic limestone.
Crinoid stems.
550- 60-Ctgs: Same.
560- 70-Ctgs: Greenish gray limestone, slightly cherty.
570- 80-Ctgs: Same and green shale. Red shale noted.
580- 90-Ctgs: Same with less green shale.
Bryozoa noted.
590- 600-Ctgs: Gray crystalline limestone with bluish chert, green and dark red shale noted.
610- 20-Ctgs: Greenish gray crystalline and granular limestone.
620- 30-Ctgs: Same with oolitic limestone.
Crinoid stems.
630- 40-Ctgs: Greenish and gray coarsely crystalline and oolitic limestone, green and dark red shale.
640- 50-Ctgs: Gray and greenish oolitic limestone.
650- 60-Ctgs: Same.
660- 70-Ctgs: Same.
Endothyra sp.
Small gastropods.
Crinoid stems.

- 670- 80-Ctgs: Light gray oolitic limestone.
- 680- 90-Ctgs: Greenish gray crystalline and oolitic limestone with **crinoid stems**, green shale.
- 690- 700-Ctgs: Greenish gray granular and dense limestone and shaly lime, **crinoid stems**.
Brachiopod frag.
Fenestella Bryozoa.
- 700- 10-Ctgs: Same. Green shaly lime with **Fenestella Bryozoa**. Brown chert noted.
- 710- 20-Ctgs: Medium greenish gray limestone.
- 720- 30-Ctgs: Light gray oolitic and crystalline limestone.
- 730- 40-Ctgs: Light gray oolitic limestone.
- 740- 50-Ctgs: Light gray oolitic limestone.
- 750- 60-Ctgs: Same with gray granular limestone, **crinoid stems**.
- 760- 70-Ctgs: Light gray oolitic, fossiliferous limestone.
Abundant crinoid stems.
Fenestella Bryozoa.
Small brachiopods.
- 780- 90-Ctgs: Light gray oolitic limestone.
- 790- 800-Ctgs: Light gray oolitic limestone.
Small gastropods noted.
- 800- 10-Ctgs: Same.
- 810- 20-Ctgs: Light gray limestone with an abundance of small **crinoid stems**.
- 820- 30-Ctgs: Brownish gray granular limestone.
- 830- 40-Ctgs: Same with brown oolitic limestone and chert, fossiliferous.
- 840- 50-Ctgs: Same.
- 850- 60-Ctgs: Same with brown chert.
Bryozoa.
- 860- 900-Ctgs: Same.
- 900- 10-Ctgs: Brownish gray granular and crystalline limestone and chert, green shale, slightly fossiliferous, and dark red shale.
- 910- 20-Ctgs: Grayish brown crystalline and granular limestone, fossiliferous.
- 920- 30-Ctgs: Same. Green and dark red shale.
Crinoid stems.
Bryozoa.
- 930- 40-Ctgs: Grayish brown crystalline and granular limestone, fossiliferous, and green and dark red shale.

Bangor

- 940- 50-Ctgs: Gray limestone, fossiliferous and dark gray shale and sandy shale.
Bryozoa.
Crinoid stems.
- 950- 60-Ctgs: Same with dark gray carbonaceous shale and sandy shale.
- 960- 70-Ctgs: Dark gray shale and limestone frag.
- 970- 80-Ctgs: Dark gray carbonaceous shale and brown claystone and lime noted.

- 980- 90-Ctgs: Same with greenish shale and limestone.
 990-1000-Ctgs: Brown crystalline limestone, fossiliferous, and gray fossiliferous shale.
 1000- 10-Ctgs: Same with more gray shale.
 1010- 20-Ctgs: Gray limestone and shale and dark red shale.
 Fenestella Bryozoa.
 1030- 40-Ctgs: Gray and brownish crystalline limestone, fossiliferous.
 1040- 50-Ctgs: Same with gray fossiliferous shale, especially with abundant **Bryozoa**.
 Crinoid stems.
 1050- 60-Ctgs: Same with increasing amount of shale.
 Bryozoa.
 1060- 70-Ctgs: Gray and brown fossiliferous limestone and gray shale.
 1070- 80-Ctgs: Same with finely granular limestone.
 1080- 90-Ctgs: Gray limestone and shale, fossiliferous.
 1090-1100-Ctgs: Gray and brown limestone.
 1100- 10-Ctgs: Gray and brown limestone, with **crinoid stems** and gray dense limestone.
 Ostracods.
 1110- 20-Ctgs: Same with gray medium to fine-grained sandstone, hard.

Hartselle

- 1120- 30-Ctgs: Gray medium to fine-grained sandstone.
 1130- 40-Ctgs: Same with sandy lime.
 1140- 50-Ctgs: Same with increasing amount of sandy lime, part carrying **Bryozoa**.
 1150- 55-Ctgs: Same with green shale from above.
 1150- 60-Ctgs: Light gray medium-grained sandstone, part slightly stained brown.
 1160- 70-Ctgs: Same.
 1170- 80-Ctgs: Gray hard fine-grained sandstone and sandy shale with pyrite.
 1180- 90-Ctgs: Same with very hard sandstone, slightly carbonaceous.
 1190-1200-Ctgs: Same.
 1200- 10-Ctgs: Same with medium-grained hard sandstone.
 1220- 30-Ctgs: Gray hard fine-grained sandstone and sandy carbonaceous shale, brown claystone.
 1230- 35-Ctgs: Same. Pyrite.
 1235- 50-Ctgs: Same.
 1250- 60-Ctgs: Gray micaceous, carbonaceous sandy shale.
 1260- 70-Ctgs: Dark gray micaceous, carbonaceous shale and sandy shale.
 1270- 75-Ctgs: Same and brown claystone.
 1275- 80-Ctgs: Same.
 1280- 90-Ctgs: Dark gray micaceous, carbonaceous brittle shale.
 1290-1300-Ctgs: Same with sandy shale and limestone frag.
 1300- 10-Ctgs: Dark gray to black slightly micaceous, carbonaceous shale.

Prob. Gasper

- 1310- 20-Ctgs: Dark gray to black shale, micaceous, carbonaceous and slightly fossiliferous.

- 1320- 30-Ctgs: Same with more black shale.
 1330- 40-Ctgs: Same with increasing amount of black shale.
 1340- 50-Ctgs: Same.
 1350- 60-Ctgs: Gray to black shale, fossiliferous, gray limestone.
 Shell frag.
 Ostracods.

Gaspar

- 1360- 70-Ctgs: Same.
 1370- 80-Ctgs: Same with **shell frag.**
 1380- 90-Ctgs: Dark gray brittle shale.
 1390-1400-Ctgs: Gray to black brittle shale.
 1400- 10-Ctgs: Same. Shale, fossiliferous.
 1410- 20-Ctgs: Same.
 1420- 30-Ctgs: Same with brown limestone and more fossiliferous shale.
 1430- 40-Ctgs: Gray limestone, gray shale.
 1440- 50-Ctgs: Gray medium-grained sand and sandstone, slightly brownish stained.

Prob. Bethel

- 1450- 60-Ctgs: Same with **crinoid stems** and **Bryozoa** and small gray to black inclusions.
 1460- 70-Ctgs: Greenish gray fossiliferous limestone and shale with pyrite.
 Crinoid stems.
 Bryozoa.
 Brachiopod frag.

Prob. St. Genevieve

- 1470- 80-Ctgs: Gray limestone, part oolitic with some brown stain.
 Test for oil shows a very slight trace.

Summary

Pennsylvanian	40'	to	489-90'
Pennington and Bangor	480-90'	to	1110-20'
Hartselle	1110-20'	to	1300'
Prob. Gaspar	1300'	to	1440'
Prob. Bethel	1440'	to	1460'
Prob. St. Genevieve	1460'	to	T.D.

Ogg & Easton
Audie Harris #1-A
SE/4 of SW/4
Sec. 26—T 8 S—R 12 W
Franklin County, Ala.

Began April 20, 1949
Completed June 18, 1949

1468- 75-Ctgs: Gray oolitic and crystalline limestone, part slightly brownish stained; green, gray and black shale.

Prob. St. Genevieve

1475- 82-Ctgs: Same.
1482- 90-Ctgs: Same with more brown-stained limestone.
1492-1500-Ctgs: Same.
1500- 10-Ctgs: Gray crystalline limestone with brown stain and black and green shale.
1510- 20-Ctgs: Same with green shale carrying **crinoid stems** and **Bryozoa**.
1520- 30-Ctgs: Gray crystalline limestone with brown stain.

Tuscumbia

1530- 40-Ctgs: Gray crystalline limestone and green and black shale frag.
1540- 50-Ctgs: Gray limestone, part brown stained and black shale.
1550- 60-Ctgs: Same with dark red and green clay.
1560- 70-Ctgs: Gray dense limestone with brown stain.
1570- 80-Ctgs: Same.
1580- 90-Ctgs: Gray dense limestone.
1600- 10-Ctgs: Bluish cherty limestone pin-point brownish stain.
1610- 20-Ctgs: Bluish cherty limestone with pin-point brown stain.
1620- 30-Ctgs: Dark gray dense and cherty limestone, brownish chert.

Fort Payne

1630- 40-Ctgs: Same.
1640- 50-Ctgs: Brownish gray cherty limestone and brown chert.
1650- 60-Ctgs: Grayish brown cherty limestone.
1660- 80-Ctgs: Same.
1680- 90-Ctgs: Same with brown chert.
1690-1710-Ctgs: Same.
1710- 20-Ctgs: Same with gray limestone.
1720- 30-Ctgs: Same with increasing amount of brown chert.
1730- 40-Ctgs: Grayish brown limestone and cherty limestone.
1740- 50-Ctgs: Brownish black shale with fine mica, black shale with glauconite, greenish gray limestone with **crinoid stems** and greenish lime with black inclusions.

Chattanooga

1750- 60-Ctgs: Black sandy shale and gray hard dense fine-grained sandstone, pyrite and black micaceous shale.

- 1760- 70-Ctgs: Dense brownish black shale with spores, pyrite and hard fine-grained sandstone.
 1770- 80-Ctgs: Same with medium-grained sandstone and sandy shale.
 1780- 90-Ctgs: Greenish limestone with chert, greenish shale. Crinoid stems.

Silurian

- 1790-1800-Ctgs: Same with gray limestone.
 1800- 10-Ctgs: Greenish and gray crystalline and slightly granular limestone and shaly lime with fine pyrite.
 1810- 20-Ctgs: Same with chert noted.
 1820- 40-Ctgs: Same.
 1840- 50-Ctgs: Same with increasng amount of chert.
 1850- 60-Ctgs: Same.
 1860- 70-Ctgs: Greenish limestone and shaly lime.
 1870- 80-Ctgs: Same.
 1880- 90-Ctgs: Same with more shaly lime and **crinoid stems**.
 1890-1900-Ctgs: Same.
 1900- 10-Ctgs: Medium greenish shaly lime and finely crystalline limestone.
 1910- 20-Ctgs: Same with more crystalline and granular limestone. Chert noted.
 1920- 30-Ctgs: Greenish crystalline and shaly limestone.
 1930- 40-Ctgs: Same.
 1940- 50-Ctgs: Same with red lime and shaly lime. Crinoid stems.
 1950- 60-Ctgs: Same with more red lime.
 1960- 70-Ctgs: Same. Greenish shale noted. Crinoid stems.
 1970- 80-Ctgs: Same with yellowish lime and shale. Ostracods and shell frag.
 1980- 90-Ctgs: Dark red, pink and green lime.
 1990-2000-Ctgs: Same, fossiliferous.
 2000- 10-Ctgs: Same. Small gastropods noted.
 2010- 20-Ctgs: Dark red, pink and green lime.
 2020- 30-Ctgs: Dark red and pink lime, fossiliferous. Ostracods.
 2030- 50-Ctgs: Same.
 2050- 60-Ctgs: Same and greenish lime noted.
 2060- 70-Ctgs: Yellowish and pinkish limestone and gray crystalline limestone, black shaly lime and sandy lime.

Prob. Ordovician

- 2070- 80-Ctgs: Gray limestone with black inclusions.
 2080- 90-Ctgs: Dark gray limestone with black inclusions.
 2090-2100-Ctgs: Same. Shells noted.
 2100- 10-Ctgs: Gray fossiliferous limestone with small black inclusions.

- 2110- 20-Ctgs: Dark gray limestone with small black inclusions.
2120- 30-Ctgs: Gray to black finely granular limestone.
2130- 40-Ctgs: Light and dark gray limestone with small black inclusions.
2140- 50-Ctgs: Gray limestone with small black inclusions.
2150- 70-Ctgs: Same.
2170- 80-Ctgs: Black and gray limestone with small black inclusions.
2180- 90-Ctgs: Same with gray limestone.
2190-2220-Ctgs: Same.
2220- 30-Ctgs: Same with black calcareous shale.
2230- 40-Ctgs: Same.
2240- 50-Ctgs: Dark grayish brown limestone, black finely micaceous, calcareous shale and shaly lime and gray limestone.
2250- 90-Ctgs: Same.
2290-2300-Ctgs: Same with lighter gray limestone noted.
2300- 10-Ctgs: Buff-colored to light brownish limestone.

Ordovician—Black River

- 2310- 20-Ctgs: Same.
2320- 30-Ctgs: Light brown dense limestone.
2330- 40-Ctgs: Same.
2340- 50-Ctgs: Light gray and brownish gray dense limestone.
2350- 60-Ctgs: Light brownish gray almost oolitic limestone.
Small brachiopods noted.
2360- 70-Ctgs: Same.
Ostracods.
2370- 90-Ctgs: Same.
2390-2400-Ctgs: Light brownish gray crystalline limestone.
2400- 10-Ctgs: Same.
2410- 20-Ctgs: Light brownish gray dense limestone, granular limestone noted.
2420- 30-Ctgs: Light brownish gray crystalline and dense limestone.
2430- 40-Ctgs: Same.
2440- 50-Ctgs: Buff-colored crystalline limestone.
2450- 60-Ctgs: Grayish brown rather dense limestone, cherty.
2460- 70-Ctgs: Same.
2470- 80-Ctgs: Same with shaly lime noted.
2480- 90-Ctgs: Buff-colored finely granular limestone, dense and cherty limestone.
2490-2500-Ctgs: Same.
2500- 10-Ctgs: Buff-colored very finely granular limestone.
2510- 20-Ctgs: Light grayish brown dense limestone and darker grayish brown dense limestone.
2520- 30-Ctgs: Grayish brown dense limestone.
2530- 40-Ctgs: Same.
2540- 50-Ctgs: Same with shaly lime.
2550- 60-Ctgs: Same.
2560- 70-Ctgs: Same and light gray limestone.
2570- 80-Ctgs: Grayish brown dense limestone and shaly lime. Light gray limestone noted.

- 2580-2620-Ctgs: Same.
 2620- 30-Ctgs: Greenish gray dense limestone and shaly lime.
 2630- 40-Ctgs: Same and brownish gray dense limestone.
 2640- 50-Ctgs: Brownish gray dense limestone.
 2650- 60-Ctgs: Same with gray and greenish gray limestone.
 2660- 70-Ctgs: Light gray and greenish gray dense limestone.
 2670- 80-Ctgs: Same with brownish gray dense limestone.
 2680- 90-Ctgs: Light gray dense limestone.
 2690-2700-Ctgs: Light gray dense limestone.
 2700- 10-Ctgs: Light gray dense limestone and finely granular limestone.
 2710- 20-Ctgs: Light gray dense limestone.
 Ostracods noted.
 2720- 30-Ctgs: Same with finely granular limestone.
 2730- 40-Ctgs: Same with more finely granular limestone.
 2740- 70-Ctgs: Same.
 2770- 80-Ctgs: Light gray dense limestone with finely granular limestone.
 2780- 90-Ctgs: Light gray dolomite.
 2790-2800-Ctgs: Same with greenish brittle shale.
 2800- 10-Ctgs: Light gray dolomite.
 2810- 20-Ctgs: Same.
 2820- 30-Ctgs: Light bluish dolomite; greenish brittle shale noted.
 2830- 40-Ctgs: Same.
 2840- 50-Ctgs: Light bluish gray dolomite.
 2850- 60-Ctgs: Same.
 2860- 70-Ctgs: Same with dense limestone.
 2870- 80-Ctgs: Light bluish gray dolomite.
 2880-2900-Ctgs: Light bluish gray dolomite.
 2900- 10-Ctgs: Same with rounded frosted sand grains noted.
 2910- 20-Ctgs: Same with light gray limestone and more frosted pitted sand grains from the dolomite.

Prob. Knox

- 2930- 40-Ctgs: Buff-colored dolomite with rounded frosted sand grains.
 2940- 50-Ctgs: Light gray and buff-colored limestone and dolomite.
 2950- 60-Ctgs: Same. Rounded frosted sand grains noted.
 2960- 70-Ctgs: Light gray dolomite with rounded frosted sand grains.
 2970- 99-Ctgs: Same.

Summary

St. Genevieve	1460'	to	1520'
Tuscumbia and Fort Payne	1520' ±	to	1740'
Chattanooga Shale	1740'	to	1780'
Silurian	1780'	to	2070'
Ordovician	2070'	to	2920'
Prob. Knox	2920'	to	2920' T.D.

D. E. Loveridge & Owen Heath
Reggie Johnson #1
SW/4 of SW/4
Sec. 17—T 6 S—R 13 W
Franklin County, Ala.

Elev. 540 feet
Began May 18, 1951
Completed July 18, 1951

- 30- 35-Ctgs: Medium to fine-grained sandstone with slight brown staining.
Crinoid stems.

Hartselle

- Fenestella Bryozoa.
35- 40-Ctgs: Same with asphaltic ? residue.
Crinoid stems.
40- 47-Ctgs: Same.
47- 50-Ctgs: Fine-grained sand and sandstone and sandy lime.
50- 54-Ctgs: Fine-grained sand.
54- 58-Ctgs: Fine-grained sand and sandstone with **crinoid stems** and **Fenestella Bryozoa**.
58- 64-Ctgs: Same with hard sandstone.
64- 70-Ctgs: Same with greenish clay frag.
80- 93-Ctgs: Medium to fine-grained sandstone with brown staining.
Test for oil indicated no show.
93- 97-Ctgs: Fine-grained sand and sandstone.
97- 103-Ctgs: Medium to fine-grained sand and sandstone. Pyrite.
103- 05-Ctgs: Gray medium to fine-grained sandstone and sand.
105- 06-Ctgs: Gray hard fine-grained sandstone.
106- 230-Ctgs: Greenish gray hard fine-grained sandstone and brown claystone.
230- 32-Ctgs: Dark gray shale and brownish limestone.

Prob. Gasper

- 232- 36-Ctgs: Brownish gray limestone with **crinoid stems**. Dark gray shale.
236- 76-Ctgs: Same with **Bryozoa**.
276- 311-Ctgs: Same with more grayish brown limestone.
311- 72-Ctgs: Dark gray shale, brown claystone and limestone frag.
372- 76-Ctgs: Medium gray hard dense limestone.
376- 80-Ctgs: Same with slight brown staining.
380- 88-Ctgs: Gray limestone.
388- 91-Ctgs: Same and gray shale and frag. of greenish sandy lime.
411- 30-Ctgs: Greenish gray limestone, greenish fine-grained sandstone and sandy lime.

Prob. St. Genevieve

- 433- 37-Ctgs: Light gray chert and light gray limestone with brown staining.

Test for oil indicated slight show. Notation on sample bag: "Show of oil and gas."

Prob. Tuscumbia

- 437- 49-Ctgs: Light gray limestone and chert with oil staining.
Test for oil indicated slight show. Notation on sample bag: "Show of oil and gas."
- 449- 52-Ctgs: Light gray limestone with slight oil staining.
Test for oil indicated a very slight show. Notation on sample bag: "Slight show."
- 452- 60-Ctgs: Light gray limestone with oil stain.
- 460- 65-Ctgs: Light gray limestone with brown stain.
Test for oil indicated no show.
- 465- 69-Ctgs: Light gray limestone.
- 469- 74-Ctgs: Light gray limestone and chert with brown stain.
- 475- 82-Ctgs: Light gray limestone, slightly chert and slightly brown stained.
- 485- 506-Ctgs: Same.
- 506- 13-Ctgs: Same with more brown staining.
- 513- 19-Ctgs: Same.
- 519- 25-Ctgs: Light gray crystalline limestone, slightly brown stained.
- 525- 40-Ctgs: Same.
- 540- 45-Ctgs: Same with more staining.
Chloroform test: Slight oil show.
- 545- 52-Ctgs: Same.
Chloroform test: **Strong oil show.**
- 552- 56-Ctgs: Light gray limestone, slightly brown stained.
- 556- 68-Ctgs: Same.
- 568- 75-Ctgs: Light gray crystalline limestone.
- 575- 87-Ctgs: Same.
- 587- 90-Ctgs: Same and bluish chert.
- 590- 92-Ctgs: Same.
- 592- 97-Ctgs: Gray cherty limestone.
- 597- 600-Ctgs: Same.
- 600- 03-Ctgs: Same with more chert.
- 603- 07-Ctgs: Same.
- 607- 13-Ctgs: Same and bluish chert.
- 613- 27-Ctgs: Same.
- 627- 31-Ctgs: Blue to brownish chert and light gray limestone.
- 631- 33-Ctgs: Same.
- 633- 38-Ctgs: Gray cherty limestone.
- 638- 39-Ctgs: Blue and grayish cherty limestone.
- 639- 46-Ctgs: Same.
- 646- 60-Ctgs: Blue and gray cherty limestone.
- 650- 60-Ctgs: Dark brown chert and gray limestone.

Fort Payne

- 660- 62-Ctgs: Same.
- 662- 69-Ctgs: Same and brownish limestone.

- 669- 73-Ctgs: Same with more brown limestone.
673-74½-Ctgs: Brown chert and limestone.
674½-702-Ctgs: Same.
705- 26-Ctgs: Same.
726- 33-Ctgs: Brown cherty limestone.
733-74½-Ctgs: Same.
774½- 81-Ctgs: Same and brown glauconitic limestone.
781- 87-Ctgs: Brown glauconitic limestone.
787- 91-Ctgs: Same with brownish black shale, pyrite.

Chattanooga

- 791- 92-Ctgs: Same.
792- 95-Ctgs: Sand and greenish fine-grained sandy shale and hard sandstone.
795- 98-Ctgs: Fine-grained sand and greenish sandy shale, calcareous.

Silurian

- 798- 803-Ctgs: Greenish gray calcareous sandy shale.
803- 10-Ctgs: Greenish gray calcareous sandy shale.
810- 15-Ctgs: Same with pyrite.
815- 20-Ctgs: Same and greenish limestone with **crinoid stems**.
820- 27-Ctgs: Greenish very fossiliferous limestone.
Crinoid stems.
Brachiopods.
Ostracods.
827- 40-Ctgs: Same.
840- 47-Ctgs: Light greenish limestone and bluish chert.
847- 51-Ctgs: Same.
851- 58-Ctgs: Light greenish limestone and chert.
858- 94-Ctgs: Same.
894- 98-Ctgs: Light greenish limestone.
898- 911-Ctgs: Same.
911- 20-Ctgs: Same and shaly limestone.
920- 31-Ctgs: Same with more shaly lime.
931- 40-Ctgs: Green shaly lime.
940- 60-Ctgs: Same.
960- 70-Ctgs: Greenish limestone.
977- 85-Ctgs: Same.
985- 91-Ctgs: Same with purplish shaly lime.
991-1000-Ctgs: Same with reddish brown lime.
Ostracods.
1000- 12-Ctgs: Same and shale.
1012- 23-Ctgs: Same with pinkish limestone.
1023- 35-Ctgs: Same and dark red limestone.
1035- 44-Ctgs: Pink, red and green limestone.
Ostracods.
1044- 60-Ctgs: Same.
1060- 69-Ctgs: Dark gray phosphatic limestone. Small black inclusions abundant.

Ordovician—Trenton

1069- 77-Ctgs:	Same, fossiliferous.
1077- 88-Ctgs:	Dark gray phosphatic limestone.
1088- 97-Ctgs:	Dark gray limestone, and black shaly lime.
1097-1191-Ctgs:	Same.
1191- 97-Ctgs:	Dark gray limestone.
1197-1207-Ctgs:	Same and light gray limestone.
1207- 16-Ctgs:	Same.
1216- 25-Ctgs:	Same and brownish limestone.
1225- 72-Ctgs:	Same.
1272- 81-Ctgs:	Same and buff-colored limestone.

Black River

1281- 85-Ctgs:	Buff-colored dense limestone.
1285- 90-Ctgs:	Same, slightly cherty.
1290- 99-Ctgs:	Same and light brown limestone.
1299-1311-Ctgs:	Same.
1311- 23-Ctgs:	Buff-colored limestone, part dense.
1323- 37-Ctgs:	Buff-colored dense limestone.
1337- 47-Ctgs:	Same and granular limestone.
1347- 55-Ctgs:	Buff-colored dense and granular limestone.
1355- 65-Ctgs:	Same.
1365- 77-Ctgs:	Same and brown limestone.
1377- 89-Ctgs:	Same.
1389- 99-Ctgs:	Buff-colored to light gray crystalline limestone.
1399-1410-Ctgs:	Same.
1410- 22-Ctgs:	Light gray to brownish crystalline limestone, fossiliferous.
1422- 30-Ctgs:	Light brownish dense limestone.
1430- 36-Ctgs:	Light brown limestone and cherty limestone.
1435- 48-Ctgs:	Light gray to buff-dense limestone.
1448- 60-Ctgs:	Light gray to buff-colored dense limestone.
1460- 81-Ctgs:	Same.
1481- 94-Ctgs:	Light gray dense limestone.
1494-1503-Ctgs:	Brown dense limestone and chert.
1503- 15-Ctgs:	Same.
1515- 27-Ctgs:	Same and granular limestone.
1527- 39-Ctgs:	Same.
1539- 54-Ctgs:	Same and greenish limestone.
1554- 70-Ctgs:	Greenish gray dense limestone.
1570- 81-Ctgs:	Same.
1581- 93-Ctgs:	Same to brown dense limestone.
1593-1671-Ctgs:	Same.
1682- 90-Ctgs:	Greenish gray dense limestone.
1690-1703-Ctgs:	Same.
1703- 15-Ctgs:	Same and buff-colored limestone.
1715- 30-Ctgs:	Same.
1730- 45-Ctgs:	Light greenish gray limestone.
1745- 56-Ctgs:	Same.
1756- 64-Ctgs:	Same with buff-colored limestone.

- 1764- 75-Ctgs: Light greenish gray dense limestone and finely granular limestone.
 1775-1800-Ctgs: Same.
 1800- 08-Ctgs: Same and greenish finely granular limestone.
 1808- 25-Ctgs: Same with more greenish finely granular limestone.
 1825- 58-Ctgs: Same.
 1858- 75-Ctgs: Same and greenish magnesium limestone.
 1875- 92-Ctgs: Same with greenish shale.
 1892-1912-Ctgs: Gray and greenish finely granular magnesium limestone, slightly sand with rounded frosted sand grains.
 1912- 28-Ctgs: Buff-colored and gray dolomite.
 1928- 42-Ctgs: Same.
 1942- 57-Ctgs: Same with rounded frosted sand grains. Frag. of green brittle shale.
 1957- 72-Ctgs: Same with abundant rounded frosted sand grains.
 1972- 85-Ctgs: Buff-colored dolomite with rounded frosted sand grains and white chert and cherty limestone.

Possible Knox

- 1985- 97-Ctgs: Light gray dolomite with frosted sand grains.
 1997-2002-Ctgs: Same with frosted sand grains.
 2002- 07-Ctgs: Same.

Summary

Hartselle Sandstone	30-35'	to	230'
Gasper and St. Genevieve	230'	to	430'
Tuscumbia and Fort Payne	433-37'	to	787-91'
Chattanooga Shale	787-91'	to	795-98'
Silurian	795-98'	to	1060-69'
Ordovician	1060-69'	to	1272-81'
Trenton			
Black River		at	1272-81'
Possible Knox		at	1985'

Stratigraphic Test

Test hole put down by Mr. Owen Heath

Doil Thorn

NE/4 of NE/4

Sec. 13—T 6 S—R 14 W

Franklin County, Ala.

Best oil show in Hartselle

September 7, 1951

Elev. 620 ft. surface

- 22 ft. Ctgs: Medium-grained sand and standstone, light gray limestone with **Bryozoa**.
 Sandy lime.
 Crinoid stems.

Hartselle Sandstone and weathered Bangor

- 22- 27-Ctgs: Same with gray medium-grained hard sandstone.
 27- 36-Ctgs: Gray medium-grained sand and sandstone.
 36- 43-Ctgs: Same with frag. of dark gray carbonaceous shale.
 43- 52-Ctgs: Same with slight brown staining.
 52- 63-Ctgs: Same with more staining and black frag. of shale.
 63- 80-Ctgs: Same.
 80- 88-Ctgs: Same with more staining.
 88- 99-Ctgs: Same.
 99- 108-Ctgs: Medium-grained sand and sandstone with less staining.
 108- 13-Ctgs: Same.
 113- 18-Ctgs: Medium-grained sand with very slight staining. Pyrite.
 118- 21-Ctgs: Medium-grained sand and sandstone, slight asphaltic ? residue.
 121- 26-Ctgs: Fine-grained sand.
 132- 41-Ctgs: Medium-grained sand and sandstone, calcareous. Crinoid stems.
 141- 55-Ctgs: Gray hard fine-grained sandstone and sandy shale; brown claystone.
 155- 70-Ctgs: Dark gray micaceous, carbonaceous shale, brown claystone, gray hard fine-grained sandstone and sandy shale.

Prob. Gasper

- 170- 74-Ctgs: Same with more dark gray soft shale.
 174- 79-Ctgs: Dark gray shale and brown claystone.
 179- 88-Ctgs: Same and brown dense lime.
 188- 99-Ctgs: Same. Calcite.
 Ostracods.
 199- 204-Ctgs: Same.
 Ostracods.
 Shell frag.
 204- 16-Ctgs: Gray shale. Vein calcite.
 216- 25-Ctgs: Gray sandy lime with **Bryozoa**.
 Shell frag.
 Crinoid stems.
 225- 54-Ctgs: Same.
 254- 62-Ctgs: Gray hard finely crystalline limestone, fossiliferous.
 262- 72-Ctgs: Gray lime and shale, fossiliferous.
 Bryozoa and Crinoid stems.
 272- 84-Ctgs: Same with **Bryozoa**.
 Crinoid stems.
 Shell frag.
 Ostracods.
 284- 97-Ctgs: Dark gray shale, lime frag.
 Shell frag.
 297- 307-Ctgs: Gray soft shale, lime frag.
 Shells.
 307- 18-Ctgs: Greenish fine-grained sandstone.

Bethel

- 319- 30-Ctgs: Greenish very fine-grained sandstone and sandy shale, calcareous.
330- 42-Ctgs: Same.
342- 50-Ctgs: Greenish very fine-grained sandstone and sandy shale.
350- 58-Ctgs: Same with gray shale and lime. Pyrite.
358- 63-Ctgs: Gray limestone, slightly oolitic, with brown staining.

St. Genevieve

- 363- 67-Ctgs: Light gray limestone, fossiliferous.
367- 71-Ctgs: Same and slight granular limestone.
Crinoid stems.
371- 80-Ctgs: Greenish shale.
380- 90-Ctgs: Greenish soft shale.
390- 96-Ctgs: Green shale and limestone, fossiliferous.
Bryozoa.
Shell frag.
396- 400-Ctgs: Same, fossiliferous.
400- 04-Ctgs: Same, with asphaltic sandy lime.
404- 09-Ctgs: Same with more of asphaltic sandy lime.
409- 18-Ctgs: Greenish shale, light gray and greenish limestone, asphaltic lime frag.
418- 22-Ctgs: Gray and brownish hard limestone.

Prob. Tuscumbia

- 422- 24-Ctgs: Light gray crystalline limestone.
424- 26-Ctgs: Light gray limestone, fossiliferous. Chert noted.
426- 30-Ctgs: Light gray cherty limestone.
430- 35-Ctgs: Light gray cherty limestone with slight brown staining.
433- 45-Ctgs: Same with more staining.
445- 64-Ctgs: Same.
464- 68-Ctgs: Light gray limestone with bluish chert, brown staining.
468- 73-Ctgs: Same.
473- 81-Ctgs: Light gray limestone with brown staining.
481- 95-Ctgs: Light gray crystalline limestone, slight brown stained.
495- 99-Ctgs: Brownish gray crystalline limestone.
499- 509-Ctgs: Light gray cherty limestone, slightly brown stained.
509- 20-Ctgs: Light gray cherty limestone, with slight brown staining.
520- 24-Ctgs: Light gray limestone, slight brown staining.
524- 28-Ctgs: Same with more staining.
528- 32-Ctgs: Light gray crystalline limestone with chert.
532- 36-Ctgs: Light gray limestone with brown staining.
536- 40-Ctgs: Light gray crystalline limestone, fossiliferous.
540- 43-Ctgs: Same with slight brown staining.
543- 51-Ctgs: Light gray cherty limestone with brown staining.
551- 55-Ctgs: Light gray cherty limestone.
555- 59-Ctgs: Light gray cherty limestone, with brown staining.

Summary

Hartselle Sandstone	to.....	155-70'
Gasper	155-70' to.....	307-18'
Bethel Sandstone	307-18' to.....	358-63'
St. Genevieve	358-63' to.....	418-22'
Tuscumbia	418-22' to.....	559' T.D.

Stratigraphic Test

Test hole put down by
Mr. Owen Heath
Reggie Johnson
SE/4 of SE/4
Sec. 18—T 6 S—R 13 W
Franklin County, Ala.

Surface elevation 525 ft.

13-15½-Ctgs: Medium-grained sand and sandstone.

Hartselle

15½-Ctgs: Medium-grained sand and sandstone with **crinoid stems**, with brown staining.
20- 29-Ctgs: Same with **heavy brown staining**.
Best oil show at 20-26 ft.
29- 35-Ctgs: Same with sandy lime.
35- 42-Ctgs: Same with more sandy lime.
42- 47-Ctgs: Same with abundant **crinoid stems** and sandy shale.
47- 52-Ctgs: More medium-grained sand and sandstone and sandy shale with **crinoid stems** and **bryozoa**.
52- 55-Ctgs: Gray medium-grained and fine-grained sandstone with black shale.
55- 63-Ctgs: Light gray fine-grained sandstone with slight brown stain.
63- 69-Ctgs: Medium to fine-grained sandstone with brown staining.
69- 74-Ctgs: Same.
74- 80-Ctgs: Light gray hard fine-grained sandstone and sand. Black shale frag.
80- 85-Ctgs: Medium-grained sand and sandstone.
86- 92-Ctgs: Light gray hard fine-grained sandstone.
92- 98-Ctgs: Same and sand.
98- 101-Ctgs: Gray hard fine-grained sandstone and sandy shale. Brown claystone. Dark gray soft carbonaceous shale.

Prob. Gasper

101- 05-Ctgs: Dark gray soft micaceous, carbonaceous shale. Brown claystone.
105- 07-Ctgs: Same and sandy shale.
107- 111-Ctgs: Gray hard fine-grained sandstone and sandy shale, brown claystone; crystalline calcite.

- 111- 15-Ctgs: Brown claystone and gray sandy shale. Crystalline calcite.
115- 20-Ctgs: Same with brown hard lime. Pyrite.
Crinoid stems.
120- 29-Ctgs: Same with gray soft carbonaceous shale.
129- 33-Ctgs: Same.
Ostracods.
133- 62-Ctgs: Same and gray lime.
162- 78-Ctgs: Dark gray soft shale, sandy shale and brown claystone.
178- 88-Ctgs: Dark gray soft shale, brown claystone.
188- 97-Ctgs: Dark gray shale, brown claystone.
197- 208-Ctgs: Black dense shale, slightly fossiliferous; brown claystone.
208- 12-Ctgs: Same with calcite, slightly fossiliferous.
212- 23-Ctgs: Grayish brown hard limestone, very fossiliferous.
Crinoid stems.
Ostracods.
223- 42-Ctgs: Same.
Shell frag.
242- 60-Ctgs: Dark gray soft shale and brown claystone; brown hard lime.
260- 71-Ctgs: Grayish brown hard limestone, fossiliferous.
Bryozoa and crinoid stems.
271- 82-Ctgs: Same and gray shale.
282- 94-Ctgs: Same.
Shell frag.
Crinoid stems and frag.
294- 317-Ctgs: Dark gray soft shale, slightly fossiliferous.
317- 35-Ctgs: Gray hard sandy shale.

Prob. Bethel

- 335- 48-Ctgs: Same.
348- 59-Ctgs: Gray dense hard lime.

St. Genevieve

- 359- 71-Ctgs: Gray hard limestone, fossiliferous.
371- 82-Ctgs: Green shale and lime, fossiliferous.
382- 87-Ctgs: Same with **sandy lime**, with **asphaltic residue**.
387- 92-Ctgs: More sandy lime with asphaltic residue, and sandy fossiliferous limestone.
392- 98-Ctgs: Light greenish gray limestone.
Crinoid stems.
403- 08-Ctgs: Greenish limestone, sandy lime and shale.
Bryozoa.
408- 12-Ctgs: Same with pyrite.
412- 17-Ctgs: Light gray and greenish crystalline limestone.

Prob. Tuscumbia

- 417- 21-Ctgs: Light gray limestone, slightly brown stained.
421- 33-Ctgs: Same.
425-29—Distinct oil show with Chloroform test.

- 433- 38-Ctgs: Light gray limestone, with white chert, slight brown staining.
 438- 51-Ctgs: Same.
 451- 55-Ctgs: Light gray cherty limestone.
 455- 61-Ctgs: Same, slight brown staining.
 461- 65-Ctgs: Light gray crystalline limestone.
 465- 75-Ctgs: Light gray cherty limestone.
 475- 85-Ctgs: Light gray crystalline and cherty limestone.
 485- 93-Ctgs: Same, with slight brown staining.
 493- 97-Ctgs: Light gray crystalline limestone, slight brown stained.
 497- 502-Ctgs: Light gray limestone, with brown staining.

Summary

Hartselle Sandstone	to	98-101'
Gaspar	98-101' to	317-35'
Bethel	317-35' to	348'
St. Genevieve	348-59' to	412'
Tuscumbia	412-17' to	502' T.D.

O. Heath

W. H. McKinney #1

NW/4 of NE/4

Sec. 13—T 6 S—R 14 W

Franklin County, Ala.

Began December 14, 1951

- 11- 32-Ctgs: Gray sandy lime.
 32- 40-Ctgs: Fine-grained sandstone and sandy lime.
 Crinoid stems.

Hartselle

- 40- 46-Ctgs: Gray fine-grained sand and sandstone.
 46- 56-Ctgs: Same, with medium-grained sand and sandstone.
 56- 67-Ctgs: Same, with slight brown staining.
 67- 79-Ctgs: Same.
 79- 90-Ctgs: Gray hard fine-grained sandstone.
 90- 101-Ctgs: Same, with brown claystone and dark gray shale.
 101- 11-Ctgs: Gray hard very fine-grained sandstone and sandy shale.
 111- 25-Ctgs: Same.
 125- 41-Ctgs: Same, with brown claystone, fossiliferous. Crystalline calcite.
 141- 51-Ctgs: Same and more hard fine-grained sandstone.
 151- 63-Ctgs: Same.
 163- 82-Ctgs: Gray soft carbonaceous shale.

Gaspar

- 182- 92-Ctgs: Same.
 192- 212-Ctgs: Same, with crystalline calcite.

- 212- 31-Ctgs: Gray soft shale.
Bryozoa and other fossils.
231- 38-Ctgs: Gray shale, very fossiliferous.
Bryozoa.
Crinoid stems.
Brachiopods.
238- 44-Ctgs: Same.
Ostracods.
244- 56-Ctgs: Same, with gray and brown lime.
256- 66-Ctgs: Same.
266- 74-Ctgs: Same, with more gray soft shale.
274- 80-Ctgs: Gray fossiliferous lime.
280- 88-Ctgs: Same, very fossiliferous.
288- 99-Ctgs: Same.
299- 310-Ctgs: Same.
Elongated crinoid stems.
310- 20-Ctgs: Gray fine-grained sandstone.

Bethel

- 326- 31-Ctgs: Same.
331- 38-Ctgs: Gray hard fine-grained sandstone.
338- 50-Ctgs: Same.
350- 62-Ctgs: Very fine-grained sandstone. Pyrite.
362-75½-Ctgs: Same with gray soft shale. Lime noted. Crystalline pyrite abundant.

St. Genevieve

- 375½-79½-Ctgs: Gray limestone, slightly oolitic with brown stain.
Chloroform test: Very distinct show of heavy oil.

Gas

- 377½-79½-Ctgs: Gray limestone, slightly oolitic, with brown stain.
379½- 82-Ctgs: Same.

Gas

- 385- 97-Ctgs: Green shale and gray lime.
397- 412-Ctgs: Green shale, sandy shale and gray lime.
412- 15-Ctgs: Light greenish crystalline limestone and shale.
415-16½-Ctgs: Light gray fine-grained sandstone and sandy lime. Green soft shale.
416½-19½-Ctgs: Greenish sandy lime and shale and hard fine-grained asphaltic sandstone.
419½-22½-Ctgs: Same with more hard fine-grained asphaltic limestone.
422½- 26-Ctgs: Greenish limestone and soft shale.
426- 36-Ctgs: Gray crystalline fossiliferous limestone.
Crinoid stems.
436- 39-Ctgs: Light gray cherty limestone.

Tuscumbia

439-	44-Ctgs:	Light gray limestone.
444-	49-Ctgs:	Light gray crystalline limestone.
449-	56-Ctgs:	Same with slightly brownish stain and chert.
456-	60-Ctgs:	Same.
460-	65-Ctgs:	Same with darker gray limestone.
465-	71-Ctgs:	Light gray limestone, slightly brown stained.
471-	82-Ctgs:	Same.
482-	86-Ctgs:	Light gray crystalline limestone.
486-	90-Ctgs:	Same.
490-	94-Ctgs:	Same with chert, slightly brown stained.
494-	500-Ctgs:	Same and chert.
500-	03-Ctgs:	Same.
503-	06-Ctgs:	Light gray limestone, slightly brown stained.
506-	11-Ctgs:	Same.
511-	16-Ctgs:	Light gray cherty limestone, slightly brown stained.
516-	37-Ctgs:	Same.
516-	20-Ctgs:	Chloroform test: Slight oil show.
537-	39-Ctgs:	Light gray crystalline limestone.
539-	53-Ctgs:	Same.
553-	59-Ctgs:	Same.
559-	63-Ctgs:	Light gray cherty limestone, slightly brown stained. Chloroform test: No oil, but apparently paraffin extracted from cuttings.
563-	65-Ctgs:	Same.

Summary

Hartselle	to	163-82'
Gasper	to	310'
Bethel Sandstone	310'	to 362-75½'
St. Genevieve	362-75½'	to 436'
Tuscumbia	436'	to 565' T.D.

Gas at 375-86'. Est. 44 MCF gas per day through 2" valve.

D. E. Loveridge & Owen Heath

E. L. Thorn #1

Center NW/4 of NW/4

Sec. 18—T 6 S—R 13 W

Franklin County, Ala.

Elev. 615 ft.

Began December 12, 1951

Completed March 12, 1952

0- 11-Ctgs: Fine to medium-grained sand.

Hartselle Sandstone

11- 32-Ctgs: Same.

22- 30-Ctgs: Same with sandy lime.

- 30- 35-Ctgs: Gray hard fine-grained sandstone and sandy shale.
 35- 40-Ctgs: Fine-grained sand, part with brown stain.
 40- 45-Ctgs: Gray hard fine-grained sandstone and shale.
 45- 50-Ctgs: Same, slightly brown stained.
 50- 55-Ctgs: Medium-grained sandstone with asphalt staining.
Chloroform test gives distinct oil show.
 55- 61-Ctgs: Same and medium-grained sand.
 61- 67-Ctgs: Medium-grained sand.
 67- 80-Ctgs: Same .
 80- 87-Ctgs: Sand, slightly coarser than preceding.
 75- 93-Ctgs: Medium-grained sand.
 93- 100-Ctgs: Medium to slightly coarse sand and sandstone.
 100- 10-Ctgs: Medium-grained sand with brown claystone.
 110- 20-Ctgs: Same and sandstone.
 120- 25-Ctgs: Same with dark gray soft carbonaceous shale.
 125- 30-Ctgs: Same.
 Crinoid stems.
 138- 43-Ctgs: Gray hard sandy shale.
 143- 49-Ctgs: Same with brown claystone.
 149- 55-Ctgs: Same.
 155- 60-Ctgs: Same with dark gray soft carbonaceous shale.

Gasper

- 160- 65-Ctgs: Dark gray soft shale and brown claystone.
 165- 70-Ctgs: Same.
 170- 75-Ctgs: Same and crystalline calcite.
 175- 80-Ctgs: Same.
 180- 90-Ctgs: Same with more shale.
 190- 209-Ctgs: Same with gray hard lime, fossiliferous.
 209- 14-Ctgs: Same with **crinoid stems**.
 Bryozoa.
 Brachiopod frag.
 214- 25-Ctgs: Same.
 225- 31-Ctgs: Same with brown hard fossiliferous limestone.
 231- 35-Ctgs: Same.
 235- 40-Ctgs: Same with more shale.
 240- 50-Ctgs: Same.
 250- 55-Ctgs: Same with **shells**.
 255- 60-Ctgs: Gray hard lime, fossiliferous.
 260- 67-Ctgs: Same with **Fenestella Bryozoa**.
 267- 73-Ctgs: Same.
 273- 80-Ctgs: Light gray limestone and gray soft shale.
 280- 85-Ctgs: Brown hard lime.
 Crinoid stems.
 285- 90-Ctgs: Same and gray soft shale.
 290- 96-Ctgs: Same.
 293- 300-Ctgs: Gray very soft shale.
 300- 05-Ctgs: Same.
 305- 10-Ctgs: Gray hard fine-grained calcareous sandstone.

Bethel

- 310- 25-Ctgs: Same.
325- 35-Ctgs: Same and sandy shale.
335- 50-Ctgs: Same.
350- 55-Ctgs: Gray hard fossiliferous limestone, slightly oolitic.

St. Genevieve

- 355- 60-Ctgs: Gray fossiliferous limestone, slightly oolitic part brown stained.

Gas

- 360- 65-Ctgs: Gray hard limestone, part finely granular.
365- 70-Ctgs: Greenish soft shale.
375- 85-Ctgs: Same.
385- 90-Ctgs: Brown limestone and sandy lime.
390- 95-Ctgs: Same and light greenish limestone, fossiliferous.
395- 98-Ctgs: Same and hard fine-grained asphaltic sandstone.
398- 404-Ctgs: Gray hard fine-grained asphaltic sandstone.
404- 08-Ctgs: Same and green fossiliferous lime.
408- 13-Ctgs: Same with pyrite. Gray soft shale.
413- 18-Ctgs: Greenish gray lime, fossiliferous slightly brown stained.
418- 25-Ctgs: Light gray limestone with chert, slightly brown stained.

Tuscumbia

- 425- 35-Ctgs: Same, brown stained.
435- 46-Ctgs: Same with more light gray chert.
446- 87-Ctgs: Same.
487- 500-Ctgs: Same with milky chert.
500- 30-Ctgs: Same.
530- 36-Ctgs: Light gray cherty limestone, slightly brown stained.
536- 46-Ctgs: Same.
546- 50-Ctgs: Light gray cherty limestone, slightly brown stained.
550- 60-Ctgs: Same.
560- 66-Ctgs: Same with more brown stain.
566- 80-Ctgs: Same.
580- 84-Ctgs: Light gray cherty limestone.
584- 88-Ctgs: Same with pin point staining.
588- 97-Ctgs: Same.
597- 602-Ctgs: Same with more staining.
602- 07-Ctgs: Buff-colored dense cherty limestone.
607- 11-Ctgs: Same.
611- 16-Ctgs: Same and smoky chert.

Fort Payne

- 616- 21-Ctgs: Same.
621- 26-Ctgs: Same with increasing amount of dark chert.
626- 32-Ctgs: Dark brown and dark bluish chert and gray limestone.
632- 41-Ctgs: Same.

- 641- 46-Ctgs: Same and gray dense limestone.
646- 97-Ctgs: Same.
697- 702-Ctgs: Dark gray dense cherty lime.
702- 38-Ctgs: Same.
738- 51-Ctgs: Medium gray and brown finely glauconitic lime.
751- 56-Ctgs: Brownish black hard shale and sandy shale.

Chattanooga

- 756- 62-Ctgs: Brownish black sandy shale.
762- 67-Ctgs: Same.
767- 71-Ctgs: Same and black dense shale.
771- 78-Ctgs: Gray hard medium-grained sandstone and greenish shale and lime.
778- 85-Ctgs: Some with more greenish shale and lime.

Prob. Silurian

- 785- 98-Ctgs: Same.
805- 10-Ctgs: Greenish shale and lime.
810- 26-Ctgs: Same.
834- 46-Ctgs: Same.
854- 67-Ctgs: Same.
867- 76-Ctgs: Same.
Shells.
Ostracods.
876- 82-Ctgs: Same with light greenish limestone, fossiliferous.
Bryozoa.
Ostracods.
882- 97-Ctgs: Same.
897- 904-Ctgs: Same.
Bryozoa.
904- 07-Ctgs: Same.
907- 10-Ctgs: Light greenish limestone, fossiliferous and bluish chert.
910- 15-Ctgs: Same.
916- 21-Ctgs: Same and greenish shale.
Crinoid stems.
926- 33-Ctgs: Same and green shale.
933- 39-Ctgs: Greenish shale and shaly lime.
939- 45-Ctgs: Same and more shale.
949- 55-Ctgs: Light green crystalline limestone, fossiliferous.
955- 66-Ctgs: Same and purplish tinged limestone.
975- 85-Ctgs: Purple lime, dark reddish brown fossiliferous lime, and buff-colored lime, greenish lime, fossiliferous.
985- 92-Ctgs: Same.
Crinoid stems.
992-1000-Ctgs: Pink, light gray and greenish lime, fossiliferous.
1000- 05-Ctgs: Same.
1005- 10-Ctgs: Pink, reddish brown and green lime, fossiliferous.
1010- 16-Ctgs: Same.
1016- 21-Ctgs: Same, fossiliferous.

- 1021- 25-Ctgs: Reddish brown lime with **Ostracods**.
1025- 32-Ctgs: Reddish brown lime, fossiliferous.
1032- 47-Ctgs: Same.
1047- 53-Ctgs: Gray lime with small black phosphatic inclusions, fossiliferous.

Ordovician

- 1053- 63-Ctgs: Dark gray hard calcareous shale.
1063- 68-Ctgs: Dark gray limestone, fossiliferous.
1068- 80-Ctgs: Same.
1080- 85-Ctgs: Same with hard black shale.
1085- 96-Ctgs: Same.
1104- 12-Ctgs: Same with small black inclusions in the limestone.

Gap

- 1121- 30-Ctgs: Light and dark gray limestone with small black inclusions.

Gap

- 1137- 43-Ctgs: Same.

Gap

- 1158- 65-Ctgs: Light and dark gray limestone.
1165- 71-Ctgs: Same.
1171- 78-Ctgs: Same with more dark gray limestone.

Gap

- 1184- 89-Ctgs: Light and dark gray to black limestone.
1189- 96-Ctgs: Dark brownish gray limestone, and black shale.

Gap

- 1220- 29-Ctgs: Dark brownish gray limestone and black shale.

Gap

- 1246- 52-Ctgs: Dark gray to black limestone.
1252- 59-Ctgs: Same.
1259- 65-Ctgs: Light gray and buff-colored limestone.
1264- 75-Ctgs: Same.

Gap

- 1295-1300-Ctgs: Same.

Gap

- 1311- 16-Ctgs: Buff-colored limestone.
1316- 22-Ctgs: Same, slightly granular.
1322- 28-Ctgs: Same, fossiliferous.
1338- 46-Ctgs: Gray and brown crystalline limestone.
1346- 64-Ctgs: Same.
1370- 75-Ctgs: Light gray and buff-colored limestone, fossiliferous.

- 1375- 85-Ctgs: Same.
1385- 94-Ctgs: Buff-colored limestone.

Gap

- 1445- 50-Ctgs: Light gray dense limestone.
1450- 89-Ctgs: Same.

Gap

- 1557- 65-Ctgs: Medium gray dense limestone.
1564- 72-Ctgs: Same with green shale noted.
1572- 80-Ctgs: Same.
1580- 87-Ctgs: Same and dark gray dense limestone.
1587-1608-Ctgs: Same.
1608- 15-Ctgs: Same and light greenish fossiliferous limestone.
Ostracods.
1615- 21-Ctgs: Greenish and gray dense limestone.
1621- 42-Ctgs: Same.
1642- 50-Ctgs: Light gray and greenish dense and finely granular limestone.
1650- 81-Ctgs: Same.
1681- 90-Ctgs: Light gray dense limestone.
1690-1705-Ctgs: Same.
1705- 13-Ctgs: Same and finely granular limestone.
1713- 21-Ctgs: Same with more finely granular limestone.
1721- 28-Ctgs: Same with more finely granular greenish limestone.
1728- 49-Ctgs: Same.
1749- 55-Ctgs: Light greenish gray dense limestone.
1755- 71-Ctgs: Same.
1771- 86-Ctgs: Same with finely granular limestone.
1786- 92-Ctgs: Same.
1792- 97-Ctgs: Greenish gray finely granular limestone and gray dense limestone.
1797-1804-Ctgs: Greenish and gray finely granular and dense limestone.
1804- 23-Ctgs: Same.
1823- 31-Ctgs: Greenish gray finely granular limestone with occasional sand grains.
1831- 55-Ctgs: Same.
1855- 63-Ctgs: Same and dense gray limestone.
1863- 70-Ctgs: Same and dense gray limestone and green shale.
1870- 77-Ctgs: Greenish finely granular limestone and gray dense limestone.
1877- 84-Ctgs: Same with occasional rounded sand grains and frag. of lime with sand embedded. Green shale frag.
1884- 89-Ctgs: Gray dense limestone and greenish finely granular limestone.
1889- 95-Ctgs: Buff-colored dense limestone.
1895-1905-Ctgs: Same.
1905- 12-Ctgs: Same, prob. dolomitic.
1912- 15-Ctgs: Same.

1915-	19-Ctgs:	Gray dolomitic limestone with rounded frosted sand grains.
1919-	21-Ctgs:	Same.
1921-	23-Ctgs:	Buff-colored dolomite.
1923-	26-Ctgs:	Same.
1926-	31-Ctgs:	Light gray dolomite with occasional rounded sand grains.
1931-	35-Ctgs:	Same with more rounded frosted sand grains.
1935-	42-Ctgs:	Buff-colored dolomitic limestone.
1942-	49-Ctgs:	Same with fine pyrite.
1949-	52-Ctgs:	Same.
1953-	58-Ctgs:	Buff-colored dolomite with rounded frosted sand grains.
1965-	68-Ctgs:	Buff-colored dolomite with white chert and limestone.

Prob. Knox

1968-	72-Ctgs:	Buff-colored dolomite.
1972-	77-Ctgs:	Buff-colored dolomite and light gray dolomite with rounded frosted sand grains.
1977-	85-Ctgs:	Light gray dolomite.
1985-	90-Ctgs:	Same with rounded frosted sand grains.
1990-2000-	Ctgs:	Same.
2000-	04-Ctgs:	Same and light brown dolomite.
2004-	09-Ctgs:	Light gray dolomitic limestone.
2009-	15-Ctgs:	Same.
2015-	20-Ctgs:	Same with frag. of green shale.
2020-	25-Ctgs:	Light gray dolomitic limestone with occasional rounded sand grains.
2025-	28-Ctgs:	Light bluish dolomitic limestone.
2028-	32-Ctgs:	Same.
2032-	36-Ctgs:	Light gray dolomitic limestone.
2036-	41-Ctgs:	Same.
2043-	50-Ctgs:	Light gray dolomite with rounded frosted sand grains.
2050-	55-Ctgs:	Light gray dolomite.
2055-	60-Ctgs:	Same and buff-colored dolomitic limestone.
2060-	65-Ctgs:	Same.
2064-	67-Ctgs:	Brown dolomite and chert.
2067-	68-Ctgs:	Same and buff-colored dolomite.
2068-	75-Ctgs:	Light gray dolomitic limestone.
2075-	82-Ctgs:	Same with occasional rounded frosted sand grains.
2082-	90-Ctgs:	Light gray somewhat porous dolomite with an abundance of rounded frosted sand grains.
2090-	95-Ctgs:	Light gray very sandy dolomite. Sand rounded and frosted grains.
2095-	98-Ctgs:	Same.
2098-2103-	Ctgs:	Light gray dolomite and rounded sand grains.
2103-	07-Ctgs:	Light gray sandy dolomite.
2107-	14-Ctgs:	Buff-colored dolomite.
2114-	19-Ctgs:	Same with chert.
2119-	23-Ctgs:	Buff-colored dolomite.
2123-	25-Ctgs:	Brown and buff-colored dolomite with occasional rounded sand grains.

2125-	26-Ctgs:	Buff-colored sandy dolomite.
2126-	41-Ctgs:	Same.
2141-	47-Ctgs:	Buff-colored dolomite.
2147-	67-Ctgs:	Same.
2167-	75-Ctgs:	Brown dolomite and chert.
2175-2220-	Ctgs:	Light gray dolomite.
2220-	23-Ctgs:	Same and gray limestone.
2223-	32-Ctgs:	Light gray dolomite.

Summary

Hartselle Sandstone	-----to-----	155-60'
Gasper	155-60'-----to-----	305-10'
Bethel	305-10'-----to-----	350'
St. Genevieve	350'-----to-----	418-25'
Tuscumbia	418-25'-----to-----	611'
Fort Payne	611'-----to-----	751-56'
Chattanooga	751-56'-----to-----	778'±
Prob. Silurian	778'-----to-----	1047-53'
Ordovician	1047-53'-----to-----	1965-68'±
Prob. Knox	1965-68'-----to-----	2232' T.D.

Owen Heath

W. H. McKinney #2

Center NE/4 of NW/4

Sec. 13—T 6 S—R 14 W

Franklin County, Ala.

- 11- 23-Ctgs: Medium-grained sand and sandstone and sandy lime.
Weathered limestone from the Bangor.

Hartselle

- 23- 32-Ctgs: Medium-grained sand and sandstone and sandy lime.
32- 46-Ctgs: Same.
46- 56-Ctgs: Same, with gray fine-grained sandstone with slight asphalt staining.
56- 68-Ctgs: Gray fine-grained sandstone and carbonaceous sandy shale. Crinoid stems abundant.
68- 77-Ctgs: Gray hard fine-grained sandstone and sandy shale and brown claystone.
77- 83-Ctgs: Same.
83- 89-Ctgs: Gray sandy shale and brown claystone.
89- 103-Ctgs: Same.
103- 13-Ctgs: Same with more brown claystone.
Ostracods.
Gastropods replaced with pyrite.
113- 51-Ctgs: Same.
151- 56-Ctgs: Same with carbonaceous shale.
156- 61-Ctgs: Same, with gray soft shale, crystalline calcite.

Gasper

- 161- 66-Ctgs: Same.
 166- 82-Ctgs: Same, with more crystalline calcite.
 182- 91-Ctgs: Crystalline calcite and gray soft shale.
 Shells frag.
 191- 204-Ctgs: Same and gray fossiliferous shale with **Bryozoa**.
 Crinoid stems.
 Small gastropods.
 204- 08-Ctgs: Gray soft fossiliferous shale.
 Bryozoa.
 Crinoid stems including pentagonal forms.
 208- 21-Ctgs: Same with gray and brown lime.
 221- 44-Ctgs: Same.
 244- 48-Ctgs: Same.
 Ostracods.
 Shell frag.
 248- 49-Ctgs: Gray hard fossiliferous limestone.
 249- 57-Ctgs: Same.
 257- 70-Ctgs: Same and gray shale.
 270- 75-Ctgs: Black hard fossiliferous limestone.
 275- 85-Ctgs: Same and fossiliferous soft shale.
 285- 92-Ctgs: Same.
 292- 95-Ctgs: Gray fine-grained sandstone.

Bethel

- 295- 301-Ctgs: Gray hard fine-grained sandstone.
 301- 03-Ctgs: Same with gray fossiliferous lime.
 303- 08-Ctgs: Gray hard fine-grained sandstone.
 308- 11-Ctgs: Same and sandy shale.
 311- 17-Ctgs: Same with pyrite.
 317- 34-Ctgs: Same.
 334- 38-Ctgs: Same with sandy lime.
 338- 42-Ctgs: Gray hard sandstone with asphaltic material. Black shale.
 Pyrite. Phosphatic inclusions.
 342- 46-Ctgs: Gray very fossiliferous limestone, slightly sandy.

St. Genevieve

- 346- 49-Ctgs: Same.
 349- 50-Ctgs: Gray and brown limestone, part oolitic.

Gas

- 350- 51-Ctgs: Gray oolitic limestone.
 351- 53-Ctgs: Same and gray limestone.
 353- 55-Ctgs: Same.
 355- 58-Ctgs: Same and finely granular limestone.
 Crinoid stems.
 358- 61-Ctgs: Gray finely granular limestone, very fossiliferous.
 Crinoid stems.
 Bryozoa.

- 361- 66-Ctgs: Greenish soft shale.
Oblong Crinoid stems.
- 366- 77-Ctgs: Greenish soft shale, slightly carbonaceous.
- 377- 85-Ctgs: Same with fine-grained sandstone.
- 385- 90-Ctgs: Same with more sandstone and sandy lime, fossiliferous.
Hard sandstone with asphalt staining.
Oblong or elliptical Crinoid stems.
- 390- 94-Ctgs: Hard asphalt stained sandstone and greenish limestone.
- 394- 400-Ctgs: Same.
- 400- 05-Ctgs: Same with pyrite.
- 405- 11-Ctgs: Gray limestone, fossiliferous.

Tuscumbia

- 411- 15-Ctgs: Light gray cherty limestone, slightly brown stained.
- 415- 21-Ctgs: Light gray crystalline limestone.
- 421- 27-Ctgs: Light gray limestone, slightly brown stained.
- 427- 31-Ctgs: Same.
- 431- 35-Ctgs: Same and light gray chert.
- 435- 41-Ctgs: Same.

Summary

Hartselle	to.....	156-61'
Gasper	156-61' to.....	292-95'
Bethel	292-95' to.....	342-46'
St. Genevieve	342-46' to.....	405-11'
Tuscumbia	405-11' to.....	441' T.D.

Duffy and Harrington

W. W. Bedford #1

NE/4 of NW/4

Sec. 26—T 8 S—R 14 W

Franklin County, Ala.

Elev. 770 ft. G. L.

Began July 4, 1953

- 100- 05-Ctgs: Gray hard sandy micaceous, carbonaceous shale.

Pennsylvanian

- 105- 11-Ctgs: Same.
- 111- 16-Ctgs: Same.
Small shells noted.
- 116- 29-Ctgs: Same.
- 129- 35-Ctgs: Same.
Small crinoid stems.
- 135- 40-Ctgs: Gray hard sandstone.
- 140- 45-Ctgs: Same and brown claystone.
- 145- 50-Ctgs: Same.
- 150- 55-Ctgs: Same and gray micaceous, carbonaceous sandy shale.

- 155- 60-Ctgs: Same with an increasing amount of sandy shale.
 160- 65-Ctgs: Black micaceous, carbonaceous sandy shale and gray fine-grained sandstone.
 165- 70-Ctgs: Same.
 170- 75-Ctgs: Black micaceous, carbonaceous sandy shale.
 175- 80-Ctgs: Same. Crystalline calcite noted.
 185- 92-Ctgs: Dark gray to black micaceous, carbonaceous sandy shale. Brown claystone. Crinoid stems.
 192- 240-Ctgs: Same.
 240- 45-Ctgs: Gray to fine-grained sandstone with brown oil ? staining. With Chloroform test—Strong oil show.
 245- 52-Ctgs: Sandstone with less staining. With Chloroform test—Slight show of oil.
 252- 60-Ctgs: Same and gray shale with small siderite concretions. With Chloroform test—Faint show of oil.
 260- 68-Ctgs: Gray and red shale with small siderite concretions.
 268- 75-Ctgs: Same and sandstone frag.
 275- 81-Ctgs: Same.
 281- 87-Ctgs: Same and gray carbonaceous shale.
 287- 95-Ctgs: Same with sandstone.
 295- 301-Ctgs: Green shale with abundant small siderite concretions. Black shale.

Pennington

- 301- 13-Ctgs: Same.
 313- 20-Ctgs: Same and sandstone from above ? and sandy lime.
 320- 28-Ctgs: Gray hard sandstone and sandy shale and lime, fossiliferous.
 328- 35-Ctgs: Same, fossiliferous. Gray lime. Bryozoa. Crinoid stems.
 335- 42-Ctgs: Same with more lime. Bryozoa.
 342- 48-Ctgs: Light gray lime, slightly oolitic.
 348- 55-Ctgs: Same with dark red shale.
 355- 61-Ctgs: Same.
 361- 68-Ctgs: Same partly oolitic.
 368- 75-Ctgs: Same.
 375- 81-Ctgs: Gray limestone. Crinoid stems.
 381- 86-Ctgs: Gray limestone, slight oil staining.
 386- 91-Ctgs: Gray crystalline limestone.
 391- 400-Ctgs: Light gray cherty limestone.
 400- 05-Ctgs: Light gray crystalline limestone. Cherty lime.
 405- 10-Ctgs: Same and dark red shale.
 410- 16-Ctgs: Light gray and greenish gray limestone, fossiliferous. Green soft shale.
 416- 21-Ctgs: Same with greenish silty micaceous sandy shale.

421- 28-Ctgs: Gray and greenish limestone.

Bangor

428- 34-Ctgs: Same.

Crinoid stems.

434- 40-Ctgs: Same with chert.

440- 45-Ctgs: Same.

445- 50-Ctgs: Gray and greenish dense limestone. Little gas at 450' reported by Mr. Duffy.

455- 60-Ctgs: Gray and greenish limestone with chert. Oolitic limestone noted.

Light gray and brown chert. Oolitic chert noted.

460- 65-Ctgs: Light gray and greenish crystalline limestone.

465- 72-Ctgs: Light gray limestone.

472- 85-Ctgs: Same.

485- 90-Ctgs: Same.

Crinoid stems.

490- 95-Ctgs: Same with more **crinoid stems**.

495- 98-Ctgs: Same and dark red and green shale.

498- 505-Ctgs: Same.

505- 13-Ctgs: Light gray limestone with slight brown staining. Very faint oil show with Chloroform test.

513- 19-Ctgs: Light gray limestone with brown staining. Fairly strong oil show with chloroform test.

519- 29-Ctgs: Same, part of limestone oolitic. Fairly strong oil show with Chloroform test.

529- 35-Ctgs: Light gray very fossiliferous limestone.

Crinoid stems.

Bryozoa.

535- 43-Ctgs: Same with oolitic limestone.

543- 48-Ctgs: Same.

548- 53-Ctgs: Light gray oolitic limestone.

553- 58-Ctgs: Same and fossiliferous limestone.

558- 73-Ctgs: Same.

573- 80-Ctgs: Gray crystalline limestone.

580- 88-Ctgs: Same and finely granular limestone.

588- 97-Ctgs: Gray fossiliferous limestone.

597- 608-Ctgs: Same.

608- 16-Ctgs: Same.

Crinoid stems.

616- 22-Ctgs: Same.

622- 27-Ctgs: Same with oolitic limestone.

627- 34-Ctgs: Light gray oolitic limestone.

634- 40-Ctgs: Same.

640- 47-Ctgs: Same and fossiliferous limestone.

647- 53-Ctgs: Light gray oolitic limestone.

653- 63-Ctgs: Medium gray fossiliferous limestone.

663- 74-Ctgs: Same.

674- 80-Ctgs: Same with oolitic limestone.

- 680- 85-Ctgs: Gray oolitic limestone.
Crinoid stems.
- 685- 90-Ctgs: Same and green shale.
- 690- 96-Ctgs: Gray fossiliferous limestone.
- 696- 708-Ctgs: Same.
- 708- 16-Ctgs: Gray oolitic limestone.
- 716- 22-Ctgs: Same with gray limestone and chert.
- 722- 25-Ctgs: Same with more chert.
- 725- 35-Ctgs: Gray limestone, slightly oolitic and slightly cherty.
- 735- 45-Ctgs: Same.
- 745- 50-Ctgs: Gray limestone and shaly lime.
- 750- 56-Ctgs: Same.
Shells noted.
- 756- 62-Ctgs: Same, fossiliferous, and with increasing amount of shale.
Fenestella Bryozoa.
- 762- 72-Ctgs: Same.
- 772- 77-Ctgs: Gray fossiliferous limestone.
Crinoid stems.
- 777- 85-Ctgs: Gray fossiliferous limestone.
Archimedes frag.
- 785- 93-Ctgs: Gray fossiliferous limestone.
- 793- 98-Ctgs: Same.
Small brachiopods.
- 798- 801-Ctgs: Gray limestone, fossiliferous. Dark gray shale.
Archimedes frag.
Bryozoa and crinoid stems abundant.
- 801- 06-Ctgs: Same, very fossiliferous.
- 806- 12-Ctgs: Gray fine-grained hard sandstone and sandy shale.
- 812- 18-Ctgs: Gray hard fine-grained sandstone.
- 818- 23-Ctgs: Same.
- 823- 30-Ctgs: Gray sandy shale with carbonaceous material.
- 830- 37-Ctgs: Same.
- 837- 45-Ctgs: Dark gray carbonaceous shale and sandy shale.
- 845- 51-Ctgs: Same with brown claystone and brown lime.
- 851- 56-Ctgs: Same.
- 856- 61-Ctgs: Gray fossiliferous limestone, sandstone frag. Dark gray shale.
- 861- 67-Ctgs: Black dense shale.
- 867- 72-Ctgs: Gray oolitic limestone and black shale from above.
- 872- 76-Ctgs: Gray very oolitic limestone and greenish shale with **Fenestella Bryozoa**.
- 882- 88-Ctgs: Gray fossiliferous limestone.
- 888- 93-Ctgs: Same.
- 893- 98-Ctgs: Same and gray calcareous sandy shale.
- 898- 901-Ctgs: Gray sandy shale.
- 901- 07-Ctgs: Gray calcareous sandy shale.
- 907- 14-Ctgs: Same with pyrite.
- 914- 35-Ctgs: Same.
- 935- 40-Ctgs: Same with gray shale.

- 940- 86-Ctgs: Same.
986- 95-Ctgs: Dark gray to black shale and sandy shale, calcareous.
995- 98-Ctgs: Same and medium to slightly coarse-grained sandstone, stained. Fossils in sandstone. Part of medium-grained fossiliferous sandstone cemented with pyrite. Fine-grained sandstone uniformly brown stained.

Hartselle

- 998-1000-Ctgs: Fine-grained sandstone uniformly rich brown stained.
1000- 04-Ctgs: Fine-grained sandstone, brown stained, not quite as uniformly stained as preceding. Chloroform test gave oil show.
1004- 09-Ctgs: Fine-grained sandstone stained about the same as sand at 1000-04 ft. Sandstone has porosity.
1009- 14-Ctgs: Gray fine-grained sandstone very slightly brown stained. Small amount of limestone in sample.
1014- 19-Ctgs: Medium-grained sandstone deeply brown stained. Good oil show with Chloroform test.
1019- 25-Ctgs: Same as preceding. Very strong oil show with Chloroform test.
1025- 30-Ctgs: Light gray medium to fine-grained sandstone and sand, part brown stained. Very strong oil show with Chloroform test.
1030- 34-Ctgs: Light gray medium-grained sandstone, part hard.
1034- 40-Ctgs: Light gray hard fine-grained sandstone and sandy shale.
1040- 45-Ctgs: Gray hard fine-grained sandstone and shaly sandstone.
1045- 50-Ctgs: Gray hard fine-grained sandstone and slightly shaly sandstone.
1050- 65-Ctgs: Gray hard fine-grained sandstone.
1055-1106-Ctgs: Same.
1106- 12-Ctgs: Same. Shale streaks in sand.
1112- 27-Ctgs: Same.
1125- 32-Ctgs: Gray hard fine to medium-grained sandstone.
1131- 37-Ctgs: Gray medium to fine-grained sandstone with porosity.
1137- 41-Ctgs: Gray hard medium to fine-grained sandstone.
1141- 50-Ctgs: Gray hard fine-grained sandstone.
1150- 55-Ctgs: Same.
1155- 60-Ctgs: Same and sand.
1160- 65-Ctgs: Same with some porosity.
1165- 70-Ctgs: Same with sandy shale and black dense shale.

Gasper

- 1176- 81-Ctgs: Sandy shale and black dense shale.
1181- 91-Ctgs: Same with pyrite and brown claystone.
1191-1200-Ctgs: Black dense shale, brown claystone and pyrite.
1200- 31-Ctgs: Same.
1231- 36-Ctgs: Same with sandy shale, dark stained. Fair oil show with Chloroform test.
1236- 41-Ctgs: Same with very fine-grained sandstone. Very strong show of oil with Chloroform test.

- 1241- 45-Ctgs: Same with gray shale.
Fairly good oil show.
- 1249- 55-Ctgs: Black and gray shale and fine-grained sandstone frag.
- 1255- 58-Ctgs: Same.
- 1258- 64-Ctgs: Same, shale, slightly fossiliferous.
- 1264- 70-Ctgs: Same.
- 1270- 74-Ctgs: Same and sandstone frag. Gray fossiliferous lime frag.
- 1274- 78-Ctgs: Black shale, gray shale and sandy shale and fine-grained sandstone frag.
- 1278- 82-Ctgs: Gray shale, fossiliferous.
Ostracods.
- 1280- 90-Ctgs: Same.
- 1290- 96-Ctgs: Black and dark gray shale. Pyrite.
- 1296-1300-Ctgs: Black and gray shale.
- 1300- 06-Ctgs: Same.
- 1311- 16-Ctgs: Black shale and gray sandy shale, fossiliferous.
- 1316- 21-Ctgs: Same and fossiliferous shale and lime probably from above.
- 1321- 27-Ctgs: Black shale, gray carbonaceous shale, and gray sandy shale.
- 1327- 30-Ctgs: Same and gray fine-grained sandstone, slight brown staining.

Bethel

- 1330- 34-Ctgs: Gray medium-grained hard sandstone, part with staining.

Gas

Gray hard calcareous sandstone or sandy lime. Sand grains sub-angular.

Fairly good oil show with Chloroform test.

Summary

Pennsylvanian	to	295-301'
Pennington and Bangor	295-301'	to
Hartselle Sandstone	995- 98'	to
Gasper	1165- 70'	to
Bethel	at	1327- 30'

James L. Duffy and Jack P. Harrington

W. W. Bedford #2

NW/4 of NE/4

Sec. 26—T 8 S—R 14 W

Franklin County, Ala.

Elev. 725 ft.

Began January 25, 1954

- 65- 70-Ctgs: Gray micaceous, carbonaceous sandy shale and fine-grained sandstone.

Pennsylvanian

- 70- 75-Ctgs: Same.
75- 80-Ctgs: Dark gray micaceous, carbonaceous sandy shale.
80- 85-Ctgs: Same. Brown claystone noted.
Crinoid stems ?
85- 90-Ctgs: Same.
90- 98-Ctgs: Same with frag. of coal. Black carbonaceous shale.
Crinoid stems.
Small brachiopods.
98- 104-Ctgs: Same.
104- 09-Ctgs: Gray to black hard sandy carbonaceous shale. Brown claystone.
109- 15-Ctgs: Same.
119- 23-Ctgs: Same with sandstone.
123- 32-Ctgs: Same.
132- 39-Ctgs: Dark gray to black micaceous, carbonaceous sandy shale, brown claystone.
139- 52-Ctgs: Same.
152- 61-Ctgs: Dark gray hard carbonaceous sandy shale.
161- 92-Ctgs: Same.
181- 200-Ctgs: Black carbonaceous shale.
200- 07-Ctgs: Fine-grained sandstone with pin point staining.
207- 15-Ctgs: Same and dark gray carbonaceous shale.
215- 23-Ctgs: Dark gray to black carbonaceous sandy shale.
223- 52-Ctgs: Same.
250- 57-Ctgs: Same and frag. of brown hard calcareous sandy clay.
254- 62-Ctgs: Dark red and green clay, siderite concretions.

Pennington

- 262- 70-Ctgs: Same and brown lime. Green clay with small siderite concretions.
270- 77-Ctgs: Gray fine-grained sandstone with staining, red clay and abundant siderite concretions. Gas 270-86—with Chloroform test it gave very strong show of oil.
277- 86-Ctgs: Same and sandy shale.
286- 93-Ctgs: Gray hard calcareous sandstone. Green clay.
Forams. ?
293- 300-Ctgs: Same and carbonaceous shale and staining in sandstone from above.
301- 12-Ctgs: Light gray and greenish hard lime.
312- 18-Ctgs: Gray and greenish limestone with slight staining. Part of limestone oolitic. Dark red clay.
318- 24-Ctgs: Same.
325- 37-Ctgs: Light gray limestone with staining. Dark red clay.
Slight oil show with Chloroform test.
337- 41-Ctgs: Light gray limestone. Dark red clay.
341- 48-Ctgs: Light gray cherty limestone.
348- 54-Ctgs: Same. Green shale noted.
354- 59-Ctgs: Same, slightly oolitic.
359- 71-Ctgs: Same with more oolitic limestone.
Crinoid stems.

- 370- 75-Ctgs: Light gray limestone with staining. Red and green shale.
- Prob. Bangor**
- 375- 84-Ctgs: Light gray limestone, part cherty.
- 384- 90-Ctgs: Light gray crystalline limestone.
- 390- 99-Ctgs: Bluish cherty limestone.
- 399- 414-Ctgs: Same.
- 414- 22-Ctgs: Light gray limestone, part cherty.
- 422- 30-Ctgs: Light gray crystalline limestone.
- 430- 35-Ctgs: Same.
- 435- 41-Ctgs: Gray crystalline limestone, very fossiliferous. **Crinoid stems** in green shaly lime.
Bryozoa.
- 441- 47-Ctgs: Same.
- 447- 50-Ctgs: Same with red shale from above ?
- 450- 56-Ctgs: Gray crystalline limestone, fossiliferous.
- 456- 58-Ctgs: Same.
- 458- 67-Ctgs: Gray limestone, part oolitic and fossiliferous.
- 467- 75-Ctgs: Same, very slight brown staining.
- 475- 83-Ctgs: Same.
Crinoid stems abundant.
- 483- 505-Ctgs: Same.
- 505- 10-Ctgs: Same.
Abundant crinoid stems.
- 510- 15-Ctgs: Light gray very fossiliferous limestone.
Crinoid stems.
- 515- 20-Ctgs: Same.
- 520- 25-Ctgs: Same.
Endothyra sp.
- 525- 30-Ctgs: Same.
- 530- 35-Ctgs: Same with slight staining.
- 535- 45-Ctgs: Same.
- 545- 52-Ctgs: Same and oolitic limestone.
- 552- 60-Ctgs: Same.
- 560- 65-Ctgs: Gray fossiliferous limestone.
- 565- 70-Ctgs: Same.
- 570- 75-Ctgs: Gray oolitic and fossiliferous limestone.
- 575- 650-Ctgs: Same.
- 650- 56-Ctgs: Gray limestone.
- 656- 61-Ctgs: Light gray oolitic limestone.
- 661- 67-Ctgs: Same and green soft shale.
- 667- 73-Ctgs: Light gray oolitic limestone.
- 673- 75-Ctgs: Same.
- 674- 81-Ctgs: Gray fossiliferous limestone.
- 681- 700-Ctgs: Same.
- 700- 05-Ctgs: Same and cherty lime. Gray shaly lime.
- 705- 10-Ctgs: Same.
- 715- 23-Ctgs: Dark gray lime and shale.
- 725- 32-Ctgs: Gray limestone and shale, fossiliferous.

- 732- 40-Ctgs: Same.
Brachiopod frag.
- 740- 48-Ctgs: Light gray limestone and dark gray shale and shaly lime, fossiliferous.
- 748- 55-Ctgs: Same with shale with **Fenestella Bryozoa**.
Crinoid stems.
- 755- 65-Ctgs: Gray sandy lime, gray and black shale. Pyrite.
Bryozoa.
- 765- 72-Ctgs: Light gray hard fine-grained sandstone.
- 772- 80-Ctgs: Same and dark gray sandy shale with mica and carbonaceous material.
- 780- 87-Ctgs: Black and dark gray sandy shale with mica and carbonaceous material.
- 787- 95-Ctgs: Same. Brown claystone noted.
- 795- 802-Ctgs: Same and brown lime.
- 802- 09-Ctgs: Same.
- 809- 15-Ctgs: Brown limestone, black shale and brown claystone.
- 815- 24-Ctgs: Light gray oolitic limestone, black and dark gray shale.
- 824- 35-Ctgs: Same.
- 835- 45-Ctgs: Gray limestone. Black shale.
Bryozoa.
- 845- 50-Ctgs: Gray limestone and fossiliferous shale.
- 850- 58-Ctgs: Gray limestone and sandy shale.
- 866- 78-Ctgs: Gray silty sandy lime and shale. Pyrite.
- 878- 89-Ctgs: Same.
- 889- 900-Ctgs: Same, with pyrite and mica.
- 900- 04-Ctgs: Dark gray shale.
- 904- 12-Ctgs: Same and sandy shale.
- 914- 18-Ctgs: Same as preceding.
- 918- 40-Ctgs: Same.
- 940- 44-Ctgs: Medium-grained calcareous sandstone, slightly brown stained. Part of sand grains sub-angular.

Hartselle Sandstone

- 944- 48-Ctgs: Same with fine-grained sandstone brown stained. Sandy lime.
Crinoid stems.
- 948- 50-Ctgs: Same.
- 950- 56-Ctgs: Same with less staining.
- 956- 61-Ctgs: Gray fine-grained sandstone and sandy lime, fossiliferous.
Brown lime.
- 961- 66-Ctgs: Medium to fine-grained sandstone with brown staining.
Gray lime.
- 966- 77-Ctgs: Fine-grained sandstone with brown staining.
- 977- 81-Ctgs: Gray fine-grained sandstone with pin-point staining.
- 980- 85-Ctgs: Light gray hard fine-grained sandstone with very slight staining.
- 985- 92-Ctgs: Light gray hard fine-grained sandstone.
- 992-1025-Ctgs: Same.
- 1026- 35-Ctgs: Light gray hard fine-grained sandstone.

- 1035- 74-Ctgs: Same.
 1074- 83-Ctgs: Light gray hard medium to fine-grained sandstone.
 1083-1109-Ctgs: Same.
 1109- 16-Ctgs: Same with pyrite in part of sandstone. Shale streaks.
 1116- 26-Ctgs: Dark gray to black shale and sandy shale. Brown claystone.

Prob. Gasper

- 1126- 35-Ctgs: Same.
 1135- 44-Ctgs: Same with pyrite.
 1144- 56-Ctgs: Black shale and brown claystone.
 1156- 87-Ctgs: Same.
 1187- 96-Ctgs: Same with carbonaceous shale.
 1196-1204-Ctgs: Same and sandy shale.
 1204- 11-Ctgs: Dense black shale.
 1211- 46-Ctgs: Same.
 1246- 54-Ctgs: Same, slightly fossiliferous.
 1254- 60-Ctgs: Same.
 1260- 70-Ctgs: Same with gray hard medium-grained sandstone and black phosphatic material. Brown lime. Pyrite. Gray lime with **Fenestella Bryozoa**.
 Small gastropods.
 Crinoid stems.
 Brachiopods.
 1270- 75-Ctgs: Green and black shale, **crinoid stems**. Sandstone frag.
 1275- 80-Ctgs: Same with gray hard medium-grained sandstone with staining.

Bethel

- 1280- 85-Ctgs: Gray hard medium-grained sandstone.
 1285- 90-Ctgs: Gray medium-grained sandstone with staining. Part of sand sub-angular.
 1290- 98-Ctgs: Same.
 1298-1305-Ctgs: Light gray limestone with staining.
 1305- 15-Ctgs: Light gray fossiliferous limestone, well stained.

Tuscumbia

- 1315- 20-Ctgs: Same with gray dense limestone and cherty limestone.
 1320- 25-Ctgs: Gray limestone, slightly stained.
 1325- 30-Ctgs: Gray limestone with more staining.
 1330- 35-Ctgs: Same.
 1335- 40-Ctgs: Gray dense lightly cherty limestone.
 1335- 40-Ctgs: Gray limestone.
 1340- 52-Ctgs: Gray limestone, part with oil ? staining.
 1352- 62-Ctgs: Gray limestone, brown oil ? staining.
 1362- 75-Ctgs: Same.
 1375- 80-Ctgs: Same.
 1380- 85-Ctgs: Gray dense cherty limestone, slight staining.
 1385- 90-Ctgs: Gray dense cherty limestone.
 1385- 95-Ctgs: Light gray cherty limestone.

- 1395-1400-Ctgs: Same and cherty limestone.
1400- 05-Ctgs: Same.
1405- 11-Ctgs: Light gray limestone with slight brown staining. Fairly strong oil show with chloroform test.
1411- 17-Ctgs: Light gray cherty limestone with slight brown staining.
1417- 25-Ctgs: Same.
1425- 30-Ctgs: Light gray cherty limestone with brown staining. Fairly good oil show with chloroform test.
1430- 75-Ctgs: Same. 1440-42—Faint oil show with chloroform test. 1442-50—Fair oil show with chloroform test. 1450-58—Very faint oil show with chloroform test. 1458-65—Very faint oil show with chloroform test.
1475- 80-Ctgs: Same, more cherty and with less staining.
1480- 90-Ctgs: Same.
1490- 95-Ctgs: Bluish chert and gray lime.

Prob. Fort Payne

- 1495-1500-Ctgs: Same.
1500- 05-Ctgs: Gray limestone and chert.

Fort Payne

- 1505- 11-Ctgs: Same.
1511- 15-Ctgs: Same with bluish chert.
1515- 20-Ctgs: Bluish chert and gray limestone.
1520- 25-Ctgs: Same with brownish chert.
1525- 31-Ctgs: Brown chert and limestone. Gray limestone.
1531- 40-Ctgs: Same.
1540- 45-Ctgs: Same and dark gray shale with bright green streaks, glauconite ? and pyrite.
1545- 50-Ctgs: Green shale with pyrite. Black phosphatic ? inclusions noted. Light and medium gray lime. Greenish lime with crinoid stems. Phosphatic sandstone frag.

Maury Shale

- 1550- 58-Ctgs: Brownish black shale. Gray hard fine-grained sandstone and sandy shale. Sandstone with phosphatic material.

Chattanooga Shale

- 1558- 65-Ctgs: Brownish black shale with pyrite. Spores in shale. Gray hard fine-grained sandstone.
1565- 70-Ctgs: Same.
1570- 75-Ctgs: Same with light gray chert and lime. Limestone slightly brown stained.

Prob. Devonian

- 1575- 85-Ctgs: Light gray chert and lime. Greenish lime with fine glauconite.
1585- 92-Ctgs: Same. Slight brown staining chert.
1592-1600-Ctgs: Light gray cherty limestone, slight brown staining.
1600- 05-Ctgs: Same with light gray chert.
1605- 15-Ctgs: Light gray cherty limestone with fine glauconite.

- 1615- 25-Ctgs: Light gray cherty limestone with glauconite.
 1625- 35-Ctgs: Light gray limestone with chert. Greenish lime and shale with **Bryozoa**.

Silurian

- 1635- 45-Ctgs: Greenish lime and shaly lime.
 1645- 55-Ctgs: Gray lime with chert.
 Crinoid stems.
 1655- 60-Ctgs: Same.
 1660- 71-Ctgs: Gray and greenish lime with glauconite.
 Crinoid stems.
 1671- 81-Ctgs: Gray cherty limestone.
 1681- 87-Ctgs: Same.
 1681- 95-Ctgs: Greenish gray limestone. Chert noted.
 1695-1705-Ctgs: Same.
 1705- 10-Ctgs: Gray and greenish cherty limestone.
 1710- 70-Ctgs: Same.
 1770- 80-Ctgs: Same and shaly lime.
 1780-1812-Ctgs: Same.
 1812- 20-Ctgs: Same.
 Ostracods.
 1820-1910-Ctgs: Same.
 1910- 20-Ctgs: Same with more greenish lime.
 1920- 30-Ctgs: Very greenish shale. Greenish gray shale and lime.
 Brachiopods.
 1930- 35-Ctgs: Greenish gray shale and lime.
 1935- 45-Ctgs: Same.
 1945- 50-Ctgs: Greenish gray shale and light gray limestone.
 1950- 60-Ctgs: Light gray and greenish limestone. Dark red to purple lime and shale. Green shale. **Ostracods** in light gray lime.
 1960- 70-Ctgs: Reddish brown lime and shale. Green and purple lime.
 1970- 80-Ctgs: Pink to dark reddish brown lime.
 1980- 90-Ctgs: Same.
 Ostracods.
 1990-2000-Ctgs: Reddish brown lime and shale and pinkish lime, fossiliferous.
 Ostracods.
 Crinoid stems.
 2000- 05-Ctgs: Reddish brown shale and lime, fossiliferous. Pinkish lime.
 2005- 15-Ctgs: Gray and dark gray lime with black phosphatic inclusions.
 Greenish lime.

Ordovician-Trenton

- 2515- 20-Ctgs: Gray and dark gray lime with black phosphatic inclusions.
 2020- 30-Ctgs: Gray hard lime with black phosphatic material, part coarse-grained, fossiliferous.
 2030- 40-Ctgs: Gray to black lime with phosphatic inclusions.
 2040- 50-Ctgs: Dark gray hard finely granular lime.
 2050-2110-Ctgs: Same.

- 2110- 20-Ctgs: Brownish hard lime.
2120- 25-Ctgs: Same and black shaly lime.
2125- 80-Ctgs: Same.
2180- 90-Ctgs: Dark gray lime and shaly lime with phosphatic material.
2190-2200-Ctgs: Same.
Gas reported at 2190'.
2200- 05-Ctgs: Same with light gray and light brown lime.

Black River

- 2205- 17-Ctgs: Light gray light brown dense limestone.
2217- 22-Ctgs: Same, slightly fossiliferous.
2222- 30-Ctgs: Same.
2230- 35-Ctgs: Same with brown chert.
2235- 40-Ctgs: Same.
2240- 60-Ctgs: Light gray and buff-colored limestone.
Gas reported at 2240'.
2260- 65-Ctgs: Light gray and buff-colored limestone.
2265- 85-Ctgs: Same.
2285- 95-Ctgs: Same and brown limestone.
2295-2305-Ctgs: Same.
2305- 15-Ctgs: Gray, brown and buff-colored lime.
2315- 25-Ctgs: Same.
2325- 35-Ctgs: Gray dense limestone.
2335- 45-Ctgs: Same and buff-colored lime.
2345- 52-Ctgs: Light gray and buff-colored limestone.
2352- 63-Ctgs: Same, fossiliferous.
2363- 73-Ctgs: Gray dense fossiliferous lime.
2373- 80-Ctgs: Same and light brown fossiliferous limestone.
2380- 95-Ctgs: Gray and brown lime. Brown chert.
2395-2400-Ctgs: Buff-colored dense limestone.
2400- 12-Ctgs: Same and gray dense limestone.
2412- 30-Ctgs: Same.
2430- 40-Ctgs: Greenish gray dense limestone.
2440- 70-Ctgs: Same.
2470- 80-Ctgs: Gray and greenish gray dense limestone.
Ostracods.
2480- 90-Ctgs: Same and black shale frag.
2490-2500-Ctgs: Same.
2500- 05-Ctgs: Light greenish gray dense limestone.
2505- 25-Ctgs: Same.
2525- 32-Ctgs: Greenish gray dense limestone and black shale.
2532- 42-Ctgs: Same.
2542- 52-Ctgs: Greenish gray dense limestone.
2552- 75-Ctgs: Same.
2575- 85-Ctgs: Light greenish gray dense limestone.
2585-2600-Ctgs: Same.
2600- 10-Ctgs: Same and slightly granular limestone.
2610- 15-Ctgs: Light gray dense and crystalline limestone.
2615- 25-Ctgs: Same, and green shale streaks noted in lime frag.

- 2625- 30-Ctgs: Same and green shale frag.
 2630- 35-Ctgs: Gray dense limestone.
 2635- 50-Ctgs: Gray dense limestone with occasional rounded frosted sand grains.
 2650- 60-Ctgs: Light gray dense limestone.
 2660- 70-Ctgs: Same and greenish finely granular lime.
 2670- 80-Ctgs: Light greenish gray dolomite.
 2680- 87-Ctgs: Same.
 2687- 94-Ctgs: Light greenish gray dolomite.
 2694- 99-Ctgs: Same and light gray limestone.
 Ostracods.
 2699-2717-Ctgs: Same.
 2717- 26-Ctgs: Light greenish gray dolomite.
 2726- 35-Ctgs: Same and light gray limestone.
 2735- 50-Ctgs: Same. Frag. of green soft shale.
 2750- 65-Ctgs: Same. Pyrite noted.
 2765- 76-Ctgs: Light greenish gray dolomite with rounded frosted sand grains. Buff-colored fine-grained dolomite.
 2776- 91-Ctgs: Light gray fine-grained dolomite.
 2791-2808-Ctgs: Light gray dolomite. Sand grains rounded and frosted.
 2808- 18-Ctgs: Light gray dolomite.
 2818- 23-Ctgs: Same.
 2823- 34-Ctgs: Buff-colored dolomite, slightly sandy. White chert.
 2834- 46-Ctgs: Buff-colored dolomite, part sandy.
 2846- 52-Ctgs: Light gray sandy dolomite.
 2852- 55-Ctgs: Same, more sandy.
 2855- 65-Ctgs: Light gray dolomite with frosted sand grains.
 2865- 72-Ctgs: Light gray dolomite.
 2872- 77-Ctgs: Same.

Gap

- 2920- 24—Core— Run #1—Gray fine-grained dolomite.
 2924- 27—Core— Run #2—Gray fine-grained dolomite.
 2924- 27-Ctgs: Gray fine-grained dolomite. Green shale frag.
 2877- 85-Ctgs: Gray dolomite and limestone.
 2885-2900-Ctgs: Gray limestone and dolomite.
 2900- 08-Ctgs: Same with occasional rounded sand grains.

Gap

- 2924- 27-Ctgs: Gray fine-grained dolomite and limestone.
 2927- 32-Ctgs: Buff-colored and brown limestone.
 2932- 35-Ctgs: Gray dense limestone.
 2935- 41-Ctgs: Gray sandy limestone and dolomite. Sand grains rounded.
 2941- 49-Ctgs: Same.
 2949- 55-Ctgs: Same with buff-colored limestone.
 2955- 60-Ctgs: Gray dolomite and limestone. Gray and white chert.
 2960- 67-Ctgs: Same with increasing amount of chert which seems to have an oolitic appearance.
 2967- 75-Ctgs: Light gray limestone and dolomite with chert.

2975-	81-Ctgs:	Light gray dolomite.
Gap		
3000-	05-Ctgs:	Gray and brown dolomite. Black shale frag.
3005-	15-Ctgs:	Gray dolomite.
3015-	38-Ctgs:	Same.
3038-	45-Ctgs:	Same with brown limestone and black shale frag.
3045-	50-Ctgs:	Same.

SUMMARY

Pennsylvanian	65-70'	to	254-62'
Pennington and Bangor	254-62'	to	940-44'
Hartselle Sandstone	940-44'	to	1126'
Gasper	1126'	to	1275'
Bethel	1275'	to	1305-15'
Tuscumbia	1305-15'	to	1545'
Inc. Fort Payne			
Maury	1545'	to	1550'
Chattanooga	1550'	to	1570'
Devonian	1575'	to	1625'
Silurian	1625'	to	2005'
Ordovician	2005'	to	T.D

August 1, 1955

This well was recently deepened to 3702 feet.

International Gas and Oil Co. of Illinois

Blue Creek Land Co. #1

NW/4 of NW/4

Sec. 25—T 8 S—R 15 W

Franklin County, Ala.

Began October 4, 1954

0-	20-Ctgs:	Chert gravel and coarse sand.
20-	38-Ctgs:	Same.
38-	70-Ctgs:	Chert gravel and gray limestone.

Pennington or Bangor

70-	105-Ctgs:	Same and light gray limestone with crinoid stems .
108-	12-Ctgs:	Light gray and greenish limestone and green soft shale. Crinoid stems.
112-	14-Ctgs:	Same with oolitic limestone. Asphaltic ? residue in part of limestone. Dark red clay frag.
114-	25-Ctgs:	Same with more oolitic limestone which is impregnated with asphalt ?
125-	32-Ctgs:	Light gray limestone.
132-	40-Ctgs:	Light gray and greenish limestone and green calcareous shale. Crinoid stems.

- 140- 57-Ctgs: Same.
- 157- 63-Ctgs: Light gray limestone.
Crinoid stems.
- 163- 70-Ctgs: Greenish very fine-grained calcareous sandstone with mica. Reddish brown clay from above ?
- 170- 75-Ctgs: Same.
- 175- 80-Ctgs: Light gray limestone.
- 180- 90-Ctgs: Same.
- 190- 95-Ctgs: Same and gray impure lime.
- 195- 200-Ctgs: Gray dense limestone and shaly lime. Limestone slightly cherty.
Crinoid stems.
- 200- 06-Ctgs: Same.
- 206- 14-Ctgs: Gray and greenish hard limestone, part oolitic.
- 214- 25-Ctgs: Same.
- 225- 30-Ctgs: Light gray lime, dark reddish and greenish shale.
- 230- 36-Ctgs: Same.
- 236- 52-Ctgs: Light gray fossiliferous limestone. Green shale frag.
Crinoid stems.
- 252- 57-Ctgs: Same with reddish brown clay. Gray shale.
- 257- 62-Ctgs: Light gray limestone.
- 262- 67-Ctgs: Light gray limestone, part oolitic. Reddish brown and gray clay.
- 267- 73-Ctgs: Light gray oolitic limestone. Green clay.
- 273- 78-Ctgs: Light gray limestone, part oolitic.
- 278- 90-Ctgs: Same.
- 290- 98-Ctgs: Light gray limestone, fossiliferous.
- 298- 308-Ctgs: Same.
- 308- 15-Ctgs: Same with slight staining.
- 315- 20-Ctgs: Light gray limestone.
- 320- 30-Ctgs: Light gray oolitic limestone, part with brown staining.
Small gastropods noted.
- 330- 35-Ctgs: Same.
- 335- 40-Ctgs: Light gray limestone.
- 340- 45-Ctgs: Light gray limestone with slight brown staining.
- 345- 50-Ctgs: Same.
- 350- 60-Ctgs: Same with slight staining.
- 360- 68-Ctgs: Light gray fairly dense limestone, fossiliferous.
- 368- 81-Ctgs: Same.
- 381- 86-Ctgs: Same.
- 381- 86-Ctgs: Same and oolitic limestone slightly brown stained.
- 386- 91-Ctgs: Gray limestone, part oolitic, slight staining.
- 391- 97-Ctgs: Same.
- 397- 405-Ctgs: Light gray oolitic fossiliferous limestone with slight staining.
- 405- 10-Ctgs: Same.
- 410- 16-Ctgs: Same.
Small gastropods noted.
- 416- 21-Ctgs: Same.

- 521- 27-Ctgs: Light gray fossiliferous limestone.
427- 35-Ctgs: Same.
435- 40-Ctgs: Light gray fossiliferous limestone, part oolitic.
440- 50-Ctgs: Light gray limestone with green shale.
450- 53-Ctgs: Light gray oolitic limestone.
453- 58-Ctgs: Light gray limestone.
458- 63-Ctgs: Same with bluish and brown chert.
463- 74-Ctgs: Same.
474- 80-Ctgs: Gray and brown limestone.
480- 90-Ctgs: Gray and brownish fossiliferous limestone.
490- 95-Ctgs: Same.
495- 98-Ctgs: Same.
Ostracods noted.
498- 504-Ctgs: Same with gray shaly lime and **Fenestella Bryozoa**.
504- 15-Ctgs: Same.
515- 20-Ctgs: Same.
Shell frag.
Crinoid stems.
520- 40-Ctgs: Same.
540- 51-Ctgs: Gray crystalline limestone, part finely granular.
551- 57-Ctgs: Same with **Fenestella Bryozoa**.
Crinoid stems.
557- 63-Ctgs: Gray lime, very fossiliferous.
Bryozoa.
Fenestella Bryozoa.
Crinoid stems.
563- 69-Ctgs: Same.
569- 75-Ctgs: Dark gray carbonaceous shale and gray hard very fine-grained sandstone.
575- 82-Ctgs: Same.
582- 87-Ctgs: Same with an increasing amount of shale.
587- 601-Ctgs: Same.
601- 10-Ctgs: Same with greenish soft shale.
610- 18-Ctgs: Dark gray soft shale. Brown limestone noted.
618- 27-Ctgs: Same.
627- 34-Ctgs: Dark gray soft shale and brown hard lime, part oolitic.
634- 40-Ctgs: Gray and brown very fossiliferous limestone.
540- 49-Ctgs: Gray hard fossiliferous limestone.
649- 55-Ctgs: Same.
655- 60-Ctgs: Light gray hard fossiliferous limestone.
660- 65-Ctgs: Same.
665- 71-Ctgs: Gray hard very fine-grained sandstone and sandy shale, calcareous.
671- 710-Ctgs: Same.
710- 15-Ctgs: Gray sandy shale.
715- 23-Ctgs: Same and pyrite.
723- 35-Ctgs: Same with fine mica.
735- 42-Ctgs: Same.

- 742- 50-Ctgs: Gray calcareous shale and sandy shale.
750- 75-Ctgs: Same.
775- 82-Ctgs: Same and fine-grained sandstone frag.

Hartselle

- 782- 90-Ctgs: Gray fine and medium-grained sand.
790- 800-Ctgs: Same with more fine-grained sand.
800- 07-Ctgs: Gray fine-grained sand and sandstone.
807- 12-Ctgs: Gray hard fine-grained sandstone, gray sandy shale with lime, fossiliferous.
812- 18-Ctgs: Same.
818- 25-Ctgs: Light gray fine-grained sandstone.
825- 49-Ctgs: Same.
849- 60-Ctgs: Same and sandy shale.
860- 68-Ctgs: Same with more sandy shale.
868- 91-Ctgs: Same.
891- 900-Ctgs: Gray sandy shale.
900- 08-Ctgs: Gray very fine-grained sandstone and sandy shale, calcareous.
908- 15-Ctgs: Same.
915- 25-Ctgs: Gray fine-grained sandstone.
925- 30-Ctgs: Same.
930- 38-Ctgs: Gray hard fine-grained calcareous sandstone.
938- 48-Ctgs: Gray hard fine-grained sandstone.
948- 58-Ctgs: Same.
958- 65-Ctgs: Black shale.

Gasper

- 965-1025-Ctgs: Same.
1025- 29-Ctgs: Same with fine-grained sandstone.
1029- 34-Ctgs: Same.
1034- 40-Ctgs: Same with more fine-grained sandstone.
Shell frag.
1040- 50-Ctgs: Same with black fine-grained sandstone.

Bethel

- 1050- 58-Ctgs: Same.
1058- 63-Ctgs: Dark gray to black shale.
1063- 70-Ctgs: Same.
1070- 75-Ctgs: Dark gray to black shale.

Gap

- 1140- 48-Ctgs: Gray to black shale and gray and brown hard limestone.
Bryozoa and crinoid stems.
1148- 55-Ctgs: Light gray cherty limestone with brown staining.

Tuscumbia

- 1155- 65-Ctgs: Same.
Crinoid stems.
1165- 72-Ctgs: Same.

- 1172- 80-Ctgs: Gray cherty limestone with slight staining.
 1180- 88-Ctgs: Light gray cherty limestone.
 1188- 97-Ctgs: Same.
 1197-1206-Ctgs: Same, slightly brown stained.
 1206- 10-Ctgs: Same.

Summary

Pennington and Bangor	38-70'	to	775'
Hartselle Sandstone	775'	to	958'
Gasper	958'	to	1040'
Bethel		at	1040'±
In Tuscumbia		at	1148'

Warrior Basin Oil Corp.
 W. W. Bedford #1
 NW/4 of NE/4 of NW/4
 Sec. 26—T 8 S—R 14 W
 Franklin County, Ala.

Elev. 793'
 Began December 18, 1954
 Completed February 3, 1955

- 0- 10-Ctgs: Coarse sand.
 10- 30-Ctgs: Same.
 30- 40-Ctgs: Gray fine-grained sandstone and sand. Coarse sand.

Pennsylvanian

- 40- 50-Ctgs: Same with pyrite.
 50- 70-Ctgs: Coarse sand and gravel.
 70- 87-Ctgs: Gray fine-grained sand and sandstone.
 87- 97-Ctgs: Gray and brown hard medium-grained sandstone and black shale.
 97- 115-Ctgs: Same and fine-grained sand.
 115- 18-Ctgs: Gray hard medium to fine-grained sandstone with pin point staining.
 120- 24-Ctgs: Gray hard fine-grained micaceous sandstone.
 124- 30-Ctgs: Same.
 130- 39-Ctgs: Gray hard micaceous, carbonaceous sandy shale.
 Crinoid stems.
 139- 49-Ctgs: Gray hard medium-grained sandstone and sand. Gray hard sandy shale.
 149- 58-Ctgs: Same.
 158- 65-Ctgs: Gray hard sandy micaceous, carbonaceous shale.
 165- 74-Ctgs: Same.
 174- 83-Ctgs: Same and black sandy shale.
 183- 94-Ctgs: Black carbonaceous shale with fine mica.
 194- 205-Ctgs: Same.

- 205- 15-Ctgs: Dark gray sandy shale.
Crinoid stem frag.
- 215- 23-Ctgs: Same and hard very fine-grained sandstone.
- 223- 45-Ctgs: Same.
- 245- 55-Ctgs: Same and black shale.
- 255- 63-Ctgs: Dark gray to black hard shale and sandy shale.
- 263- 65-Ctgs: Gray hard fine-grained sandstone with pin point staining.
- 265- 75-Ctgs: Gray fine-grained sand and sandstone. Dark gray shale.
Small siderite concretions noted.
- 275- 85-Ctgs: Gray and black sandy shale.
- 285- 312-Ctgs: Same.
- 312- 25-Ctgs: Greenish gray soft clay with abundant siderite concretions.
- 325- 35-Ctgs: Black shale.
- 335- 45-Ctgs: Gray hard medium-grained sandstone with black staining.
Gray lime and greenish shale. Faint oil show with chloroform test.

Pennington

- 345- 52-Ctgs: Gray hard sandy shale. Gray lime.
- 352- 57-Ctgs: Gray lime.
- 357- 72-Ctgs: Gray lime, part oolitic. Dark red clay.
- 372-Ctgs: Same.
- 377- 82-Ctgs: Greenish gray lime.
- 382- 85-Ctgs: Same with slight staining.
- 385- 403-Ctgs: Light gray lime.
- 403- 10-Ctgs: Light gray lime, slightly cherty.
- 410- 20-Ctgs: Greenish gray lime; dark red clay.
- 420- 35-Ctgs: Same.
- 435- 45-Ctgs: Same with chert.
- 445- 55-Ctgs: Greenish gray dense lime.
- 461- 65-Ctgs: Greenish gray dense cherty limestone.

Bangor

- 465- 70-Ctgs: Light gray limestone with chert.
- 470- 81-Ctgs: Same.
- 481- 93-Ctgs: Greenish gray limestone.
- 493- 505-Ctgs: Same and dark red clay.
- 505- 10-Ctgs: Dark red clay and greenish gray lime.
Crinoid stems.
- 510- 14-Ctgs: Same.
Bryozoa.
- 514- 17-Ctgs: Greenish gray lime with brown oil, ? staining and dark red clay.
- 517- 35-Ctgs: Same.
- 535- 40-Ctgs: Light gray oolitic limestone. Dark red and green clay.
- 540- 45-Ctgs: Same.
Crinoid stems.
- 545- 51-Ctgs: Same.

- 551- 81-Ctgs: Light gray oolitic limestone.
Crinoid stems.
- 581- 90-Ctgs: Same.
- 590- 98-Ctgs: Light gray limestone.
- 598- 604-Ctgs: Same with very slight staining.
- 604- 11-Ctgs: Same.
- 611- 16-Ctgs: Light greenish gray limestone.
Fenestella Bryozoa noted.
- 616- 21-Ctgs: Greenish gray fossiliferous limestone.
- 621- 27-Ctgs: Same.
- 627- 33-Ctgs: Light gray oolitic limestone.
- 633- 43-Ctgs: Same with some fairly large oolites.
- 643- 50-Ctgs: Light gray fossiliferous limestone.
- 650- 56-Ctgs: Light gray limestone, part oolitic, reddish brown clay.
- 656- 65-Ctgs: Light greenish gray oolitic and crystalline limestone.
- 665- 74-Ctgs: Gray fossiliferous limestone.
- 674- 79-Ctgs: Same with reddish brown clay.
- 679- 95-Ctgs: Gray oolitic limestone.
- 695- 99-Ctgs: Same and fossiliferous limestone.
- 699- 712-Ctgs: Gray fossiliferous limestone.
- 712- 20-Ctgs: Gray oolitic limestone.
- 720- 29-Ctgs: Same with finely granular limestone and green and red clay.
- 729- 35-Ctgs: Gray limestone.
- 735- 50-Ctgs: Gray fossiliferous limestone.
- 750- 52-Ctgs: Same.
- 752- 59-Ctgs: Same with gray shale.
- 759- 65-Ctgs: Same with more shale.
- 765- 770-Ctgs: Gray shaly lime, fossiliferous.
Brachiopod frag.
- 770- 77-Ctgs: Same.
- 777- 84-Ctgs: Gray fossiliferous limestone. Shale noted.
- 784- 90-Ctgs: Gray fossiliferous limestone.
- 790- 96-Ctgs: Same.
- 796- 803-Ctgs: Gray limestone, part finely granular and shaly, fossiliferous.
Bryozoa and crinoid stems.
- 803- 10-Ctgs: Same, very fossiliferous.
- 810- 16-Ctgs: Gray lime and shale and black shale.
Abundant fossils.
- 816- 22-Ctgs: Gray hard fine-grained sandstone and sandy shale.
- 822- 27-Ctgs: Light gray hard fine-grained sandstone.
- 827- 36-Ctgs: Gray hard fine-grained sandstone and sandy shale.
- 836- 42-Ctgs: Black shale and gray sandy shale.
- 842- 50-Ctgs: Same with pyrite.
- 850- 59-Ctgs: Black shale brown hard fossiliferous lime. Brown clay-stone.
- 859- 65-Ctgs: Gray sandy shale and lime.

- 869- 75-Ctgs: Light gray oolitic limestone. Black shale.
 875- 82-Ctgs: Same.
 882- 92-Ctgs: Light gray limestone.
 892- 904-Ctgs: Same.
 904- 35-Ctgs: Dark gray sandy shale.
 935- 59-Ctgs: Same.
 965 95-Ctgs: Same.
 995-1001-Ctgs: Same with limestone frag. Medium to slightly coarse-grained sandstone. Sand poorly sorted.

Hartselle

- 1001- 07-Ctgs: Medium to fine-grained hard sandstone with brown staining.
 1007- 08—Core— Gray hard fine-grained silty sandstone with brown staining. Petroleum ? odor.
 1008- 11—Core— Same as preceding.
 1011-1014—Core— Same as preceding with less staining.
 1014- 18-Ctgs: Gray hard medium to fine-grained sandstone.
 1018- 25-Ctgs: Gray hard fine-grained sandstone, part fossiliferous.
 1025- 30-Ctgs: Fine-grained sand brown stained.
 1030- 36-Ctgs: Light gray hard fine-grained sandstone, part brown stained.
 1037- 38—Core— Light gray fine-grained very hard sandstone, slightly calcareous. Pin point staining in part of core.
 1038- 39—Core— Light gray very hard fine-grained sandstone with erosional surfaces.
 1038- 41-Ctgs: Light gray hard fine-grained sandstone.
 1050- 55-Ctgs: Light gray hard fine-grained sandstone and sandy shale.
 1055- 62-Ctgs: Light gray hard fine-grained sandstone.

Summary

Pennsylvanian	at	30- 40'
Pennington	at	335- 45'
with Bangor	to	995-1001'
Hartselle	at	995-1001'

The following samples were tested with Chloroform for presence of oil, with results as follows:

- 1025- 30 ft.—Very strong oil show
 1030- 36 ft.—Slight oil show
 1001- 07 ft.—No show
 514- 17 ft.—No show
 517- 28 ft.—Pronounced oil show
 528- 35 ft.—Distinct oil show
 598-604 ft.—No show
 604- 11 ft.—No show.

LAMAR COUNTY

Desoto Oil and Gas Co.

Gardner #1

300 ft. S and 136 ft. E of NW cor.

Sec. 22—T 15 S—R 16 W

Lamar County, Ala.

Elev. 324 ft.

Began March 31, 1932

Comp. March 15, 1936

- 0- 425-Ctgs: Chert, worn sandstone pebbles, fragments of medium and dark gray non-calcareous clay. Washed residue contains medium to fine angular quartz, some of which is stained brownish, some rounded quartz grains and pyrite. No fossils.
Tuscaloosa formation.
- 425- 528-Ctgs: Chert, quartz pebbles, light gray, pinkish tinged non-calcareous clay. Washed residue contains an abundance of yellowish concretions, which slowly react to HCL: fine angular and subangular quartz grains, some pyrite.
Tuscaloosa formation.
- 528- 595-Ctgs: Hard medium gray fine non-calcareous micaceous sandstone. Washed residue contains fine angular to sub-angular quartz, and mica.
Coal Measures.
- 595- 651-Ctgs: Hard dark gray non-calcareous shale. Washed residue contains fragments of micaceous shale, occasional fine quartz grains, some m'ca.
- 651- 66-Ctgs: Hard coarse medium gray non-calcareous sandstone, and fragments of dark gray non-calcareous shale. Washed residue contains an abundance of cloudy partially rounded quartz, and a small amount of angular clear quartz.
- 666- 71-Ctgs: Hard coarse medium gray non-calcareous sandstone. Fragments of chert noted. Washed residue contains partially rounded cloudy quartz and angular clear quartz grains.
- 671- 76-Ctgs: Hard medium gray slightly calcareous sandstone fragments. Washed residue contains medium to fine partially rounded to angular quartz.
- 676- 80-Ctgs: Hard dark gray shale fragments. Portions slightly calcareous. Also sandstone fragments. Washed residue contains some cloudy quartz and a small amount of pyrite.
- 680- 87-Ctgs: Hard dark gray non-calcareous shale. Washed residue shows medium to fine quartz grains, some carbonaceous material, and a small amount of pyrite.
- 687- 98-Ctgs: Same as preceding.

- 698- 702-Ctgs: Hard dark gray non-calcareous sandy shale. Washed residue contains medium to fine partially rounded quartz grains and some mica.
- 702- 64-Ctgs: Hard dark gray shale with some calcareous fragments. Washed residue contains small pieces of micaceous shale, with occasional quartz grains.
- 764- 805-Ctgs: Hard medium gray micaceous non-calcareous sandstone and hard dark gray micaceous non-calcareous shale. Washed residue consists of medium to fine angular quartz and fragments of micaceous shale.
- 805- 21-Ctgs: Hard dark gray non-calcareous sandy micaceous shale. Washed residue consists of particles of micaceous shale and angular quartz grains.
- 821- 39-Ctgs: Hard medium gray fine-textures sandstone and hard dark gray micaceous shale. Some pieces of the sandstone slightly calcareous. Washed residue consists of medium to fine angular clear quartz and small bits of micaceous shale.
- 839- 65-Ctgs: Hard medium gray fine sandstone and hard dark gray slightly calcareous micaceous shale. Washed residue consists of medium to fine angular clear quartz and small bits of micaceous shale.
- 865- 70-Ctgs: Hard dark gray sandy non-calcareous micaceous shale. Washed residue contains fine angular cloudy quartz, some mica.
- 870- 912-Ctgs: Same as preceding. Considerable mica in fine flakes present.

Samples received April 28, 1932

- 912-1000-Ctgs: Hard dark gray non-calcareous shale. Washed residue contains fragments of micaceous shale, a small amount of pyrite, occasional quartz grains, and a small amount of carboniferous material.
Foraminifera present.
- 1000- 80-Ctgs: Hard dark gray shale, non-calcareous, and fine-grained medium gray slightly calcareous sandstone. Washed residue contains medium to fine angular quartz and fragments of micaceous shale.
No fossils noted.
- 1080-1112-Ctgs: Hard dark gray micaceous shale and hard light gray fine-grained micaceous sandstone. Fragments of the sandstone slightly calcareous. Washed residue contains medium to fine angular cloudy and clear quartz and a small amount of mica.
- 1112- 30-Ctgs: Hard dark gray non-calcareous micaceous shale. Washed residue contains occasional quartz grains, carbonaceous material and a small amount of pyrite.
- 1130- 35-Ctgs: Hard fine light gray non-calcareous sandstone. Washed residue contains medium to fine angular quartz and carbonaceous material.

- 1135- 85-Ctgs: Hard medium-grained light gray non-calcareous sandstone. Washed residue contains angular and etched medium to fine quartz.
- 1175- 85-Ctgs: Chert, quartz, and a few fragments of dark gray non-calcareous shale.
- 1185-1225-Ctgs: Hard light gray slightly calcareous medium-grained sandstone, pinkish tinged; and fragments of dark gray shale. Washed residue contains coarse to fine angular and etched quartz.
- 1225- 33-Ctgs: Same as preceding. Washed residue contains coarse to fine angular and etched quartz and occasional flakes of mica.
- 1233- 62-Ctgs: Hard light gray fine-grained non-calcareous sandstone, with a few fragments of black shale. Washed residue contains medium to fine angular and etched quartz with occasional coarse quartz grains and flakes of mica.
- 1262- 85-Ctgs: Hard medium gray fine-grained calcareous sandstone, and hard dark gray non-calcareous shale. Washed residue contains fine-grained quartz, occasional coarse grains, fragments of fine micaceous shale, flakes of mica.
- 1285-1300-Ctgs: Same as preceding.
- 1300- 34-Ctgs: Hard light gray fine-grained slightly calcareous sandstone, and hard dark gray non-calcareous micaceous shale. Washed residue contains medium to fine angular quartz and flakes of mica.
- 1334- 71-Ctgs: Hard medium gray fine-grained slightly calcareous sandstone and dark gray micaceous slightly calcareous sandy shale. Washed residue contains very fine quartz grains, and flakes of mica.
- 1371-1465-Ctgs: Hard medium gray fine-grained slightly calcareous sandstone, with flakes of mica noted; and hard dark gray non-calcareous micaceous shale. Washed residue contains fine angular quartz, occasional larger grains, and flakes of mica.
- 1465- 80-Ctgs: Hard very dark gray micaceous non-calcareous shale with sandy lenses. Some chert. Washed residue contains fragments of hard gray sandstone, micaceous dark gray shale, containing some carbonaceous material, coarse to fine angular and sub-angular quartz.
- 1480-1551-Ctgs: The same as preceding, except more carbonaceous material present.
- 1565- 83-Ctgs: Fragments of hard medium gray fine-grained micaceous carbonaceous slightly calcareous sandstone, and hard dark gray carbonaceous non-calcareous shale. Washed residue contains medium to fine angular and etched quartz fragments of gray fine micaceous shale.
- 1583-1613-Ctgs: Same as preceding.
- 1613- 43-Ctgs: Same as preceding.

- 1643- 73-Ctgs: Fragments of hard medium gray slightly calcareous carbonaceous sandstone, and dark gray non-calcareous shale. Washed residue consists of fine angular and etched quartz and fragments of dark gray micaceous carbonaceous shale.
- 1673- 88-Ctgs: Same as preceding.
- 1688-1855-Ctgs: Same as above except more shale and less sandstone.
- 1855-2198-Ctgs: Fragments of medium gray hard, carbonaceous and micaceous slightly calcareous sandstone, and a larger amount of hard dark gray non-calcareous shale.
- 2008-Ctgs: Hard dark gray micaceous non-calcareous shale, and light gray medium-grained carbonaceous slightly calcareous sandstone.
- 2200— Bit sample—Dark gray micaceous, carbonaceous non-calcareous shale.
- 2198-2225-Ctgs: Same as 1855-2198-Ctgs., except sand more highly calcareous. Washed residue contains a small amount of coarse to fine angular and etched quartz, carbonaceous material, fragments of lime and light brown calcareous clay, some pyrite.
No fossils.
On envelope: "Slightly salt water between 2225-2233."
- 2233- 47-Ctgs: Coarse brown sand with calcareous cementing material and small fragments of lime; also fragments of dark gray non-calcareous shale. Washed residue contains coarse angular and etched quartz, occasional grains partially rounded, some stained brown, and a small amount of pyrite.
No fossils.
- 2235— Water test: CL 2457 parts per million.
- 2247- 57-Ctgs: Same as preceding.
- 2257- 69-Ctgs: Same as above except more highly calcareous.
Ostracod ? noted.
- 2269- 75-Ctgs: Like the preceding, except more shale present, and more abundant cream-colored lime.
A few shell fragments noted.
- 2275-2302-Ctgs: Fragments of hard dark gray micaceous carbonaceous non-calcareous shale, and medium gray medium-grained micaceous slightly calcareous sandstone. Washed residue contains medium angular and etched quartz, pyrite, occasional fragments of lime.
No fossils.
- 2302- 21-Ctgs: Hard medium gray fine-grained slightly calcareous micaceous sandstone and fragments of dark gray non-calcareous, micaceous shale. Carbonaceous material and occasional fragments of lime noted.
No fossils.

- 2321- 37-Ctgs: Medium gray slightly calcareous sand and hard dark gray micaceous shale. Washed residue contains fine angular and etched quartz, some calcareous and carbonaceous material.
No fossils.
- 2337- 54-Ctgs: Medium gray calcareous sand, and hard dark gray non-calcareous shale. Washed residue contains fine angular and etched quartz, some calcareous and carbonaceous material. Pyrite noted.
- 2354- 85-Ctgs: Same as preceding, except more shale present.
- 2386-2401-Ctgs: Same as the preceding.
No fossils.
- 2401- 10-Ctgs: Light gray fine-grained highly calcareous micaceous carbonaceous sandstone, fragments of hard dark gray shale. Pyrite noted. Crystals of calcite.
No fossils.
- 2410- 18-Ctgs: Very fine medium gray calcareous sandstone, micaceous and carbonaceous; and hard black non-calcareous shale. Pyrite and **shell** fragments noted.
No fossils.
- 2418- 30-Ctgs: Same as preceding, except more shale present.
- 2430- 35-Ctgs: Same as preceding.
- 2435- 45-Ctgs: Same as preceding, except more fine sand.
- 2445-2519-Ctgs: Same as preceding.
- 2519- 34-Ctgs: Hard dark gray micaceous carbonaceous non-calcareous shale, and a small amount of fine-grained calcareous sandstone.
- 2534- 62-Ctgs: Same as preceding.
- 2562- 68-Ctgs: Hard light gray fine-grained carbonaceous calcareous sandstone and hard dark gray micaceous shale.
No fossils.
- 2568- 75-Ctgs: Same as preceding.
- 2578- 81-Ctgs: Same as preceding.
No fossils.
- 2587-2610-Ctgs: Hard fine-grained medium gray micaceous slightly calcareous sandstone and dark gray sandy shale, also dark gray micaceous shale. Carbonaceous material present. Calcite and pyrite noted.
No fossils.
- 2610- 17-Ctgs: Same as preceding.

Note on envelope: "June 30, 1932, now setting 6 5/8" casing at 2617."

- 2617- 30-Ctgs: Dark gray micaceous, non-calcareous and sandy shale and fine sand. Some calcareous material present.
Shell fragments noted.
- 2630- 45-Ctgs: Dark gray micaceous, non-calcareous shale and brownish gray coarse sand and calcareous sandstone. Washed residue contains coarse to medium angular and etched quartz, calcite and **shell fragments**.

- 2645- 50-Ctgs: Same as preceding. Washed residue contains coarse to medium angular and sub-angular quartz, calcite and **shell fragments**. Fragments of coal noted.
Ostracods.
- 2650- 60-Ctgs: Dark gray micaceous non-calcareous shale and sandy shale; coarse brownish gray highly calcareous sandstone and fine-grained compact slightly calcareous sandstone. Pyrite, calcite and **shell fragments** noted.
Ostracods.
- 2660- 70-Ctgs: Dark gray micaceous non-calcareous shale, coarse brownish gray slightly calcareous, light gray medium-grained compact sandstone, and fragments of lime. Pyrite and calcite present.
Ostracods.
- 2670- 76-Ctgs: Same as preceding, except some compact medium gray fine-grained calcareous sandstone.
Ostracods.
- 2676- 86-Ctgs: Same as preceding. Calcite.
Shell fragments.
- 2686- 95-Ctgs: Coarse to fine sand and fragments of fine-grained compact, slightly calcareous sandstone, part of which is stained brown, and a small amount of dark gray non-calcareous shale. A small amount of lime present. Washed residue contains angular and sub-angular, etched quartz.
- 2695-2704-Ctgs: Soft dark gray micaceous non-calcareous shale, streaked with medium gray, coarse to fine sand, a small amount of lime, fragments of light gray fine-grained compact slightly calcareous sandstone.
- 2704- 14-Ctgs: Soft medium gray non-calcareous shaly clay with light gray streaks hard dark gray micaceous non-calcareous clay, fragments of lime, loose sand, light gray medium to fine-grained compact slightly calcareous sandstone. Washed residue contains pyrite, angular and etched quartz.
Shell fragments noted.
- 2714- 21-Ctgs: Hard dark gray micaceous and sandy non-calcareous shale, fragments of brownish gray calcareous sandstone. Washed residue contains angular and sub-angular etched quartz, part of which is yellowish and orange tinted. Some lime present.
No fossils noted.
- 2721- 27-Ctgs: Fragments of hard dark gray micaceous non-calcareous shale, medium gray sandstone and loose sand, some calcareous cementing material and fragments of lime. Calcite crystals, coarse to medium angular quartz. Slight trace of oil.
No fossils.

- 2727- 32-Ctgs: Coarse to medium angular quartz with highly polished faces, fragments of hard dark gray non-calcareous shale, and fragments of lime.
Trace of oil.
- 2732— Water test: CL 8564 parts per million.
- 2732- 37-Ctgs: Coarse light brown sand and a small amount of black non-calcareous shale. Quartz is angular and sub-angular, some with highly polished faces, and some etched. A portion of the quartz is stained yellow and orange-tinged. A small amount of lime present.
- 2737- 58-Ctgs: Same as preceding.
No fossils.
- 2758-Ctgs: Yellowish brown coarse to medium-grained sand, some of which is etched and some with highly polished faces. Part of the grains are stained brown; a few fragments of dark gray shale present.
No fossils noted.
- 2758— Water test: Cl 24219 parts per million.
- 2758- 62-Ctgs: Same as preceding, except fragments of light gray fine-grained non-calcareous sandstone containing carbonaceous material and pyrite. A small amount of lime.
No fossils noted.
- 2762- 72-Ctgs: Fragments of dark gray micaceous carbonaceous shale, light gray coarse to fine-grained sandstone, some of which has calcareous cementing material. Pyrite noted and fragments of dark gray non-calcareous very compact shale. Washed residue contains angular and sub-angular quartz.
No fossils noted.
- Note on envelope: "At 2 a.m., July 16, salt water started flowing over derrick floor."
- 2775- 86-Ctgs: Light gray medium-grained non-calcareous micaceous, carbonaceous sandstone, dark gray non-calcareous micaceous carbonaceous shale and fragments of brown clayey lime.
- 2786- 91-Ctgs: Hard light gray medium-grained micaceous, carbonaceous calcareous sandstone and dark gray micaceous carbonaceous non-calcareous shale.
Pyrite present.
No fossils noted.
- 2791- 96-Ctgs: Light gray medium-grained sandstone and dark gray non-calcareous shale. Some calcareous material present.
No fossils noted.
- 2796-2806-Ctgs: Same as preceding.
No fossils noted.
- 2804- 14-Ctgs: Same as preceding, and brown clayey lime. Washed residue contains medium to fine angular and etched quartz.

- 2804- 19-Ctgs: Hard to dark gray non-calcareous micaceous, carbonaceous shale, fragments of medium gray fine-grained sandstone and brown clayey lime.
Pyrite present.
No fossils noted.
- 2852- 92-Ctgs: Dark gray micaceous carbonaceous slightly calcareous shale. Some pyrite. Rather abundant shell fragments.
- 2892-2900-Ctgs: Same as preceding and some brownish lime.
Shell fragments.
- 2900- 06-Ctgs: Dark gray micaceous carbonaceous non-calcareous shale, and light gray carbonaceous medium-grained non-calcareous sandstone, frag. of lime. Pyrite present.
- 2906- 20-Ctgs: Same as preceding.
- 2920- 23-Ctgs: Same as preceding and some brown lime.
- 2923- 35-Ctgs: Same as preceding.
- 2935- 45-Ctgs: Hard dark gray non-calcareous micaceous carbonaceous shale, medium gray medium-grained non-calcareous sandstone and fragments of lime.
No fossils noted.
- 2937—et seq. Hard dark greenish gray non-calcareous shale streaked with dark red.

Pennington

- 2945- 53-Ctgs: Hard dark gray non-calcareous micaceous carbonaceous shale, medium gray medium-grained non-calcareous sandstone, and fragments of lime. **Crinoid stems.** Brown limestone.
- 2953- 84-Ctgs: Same as preceding.
- 2984-3005-Ctgs: Hard dark gray micaceous non-calcareous shale, fragments of light gray medium-grained non-calcareous sandstone, lime more abundant than in preceding. Dark red shale noted.
Abundant shell fragments.
Crinoid stems.
- 3005- 33-Ctgs: Hard dark gray micaceous carbonaceous non-calcareous shale, and fragments of lime.
Shell fragments.
- 3033- 55-Ctgs: Same as preceding.
- 3055- 67-Ctgs: Light gray limestone, red, green and gray shale; oolitic limestone.
- 3067- 72-Ctgs: Gray oolitic limestone. Green shale interbedded with gray limestone carrying **crinoid stems.** Green dark red and gray shale.
- 3072- 94-Ctgs: Same.
- 3094-3120-Ctgs: Same, part of limestone oolitic.
- 3102- 07-Ctgs: Gray crystalline limestone with **crinoid stems** and gray oolitic limestone. Green and red shale.
- 3107- 13-Ctgs: Same.

- 3118- 20-Ctgs: Light gray fine-grained sandstone, slightly calcareous, part hard and part loosely cemented. Estimated approximately $\frac{1}{2}$ bbl. oil per day, 36 B. gravity, green oil.
- 3125- 28-Ctgs: Light gray hard fine-grained sandstone. 36° Baume grav. oil.
- 3128- 31-Ctgs: Greenish gray fine-grained sandstone, part closely cemented, and part shaly.
- 3131- 35-Ctgs: Same.
- 3135- 40-Ctgs: Gray hard fine-grained sandstone with inclusions of pyrite, part stained brown. (3137' oil sand.) Dark gray shale with small siderite inclusions.
- 3142- 48-Ctgs: Medium to fine-grained sand and sandstone and dark gray shale and sandy shale.
- 3140- 54-Ctgs: Greenish shale and sandy shale. Fine-grained sandstone with brown stain. Black shale.
- 3154- 60-Ctgs: Fine-grained sandstone with brown stain and sandy shale.
- 3160- 68-Ctgs: Frag. of sandstone and dark gray to black shale.
- 3168- 73-Ctgs: Same and light gray sandstone; dark gray shale, part carbonaceous.
- 3173- 79-Ctgs: Gray hard fine-grained sandstone with mica and sandy shale.
- 3179- 84-Ctgs: Gray very hard quartzitic sandstone; dark gray to black shale.
- 3200-Ctgs: Hard sandstone and dark gray shale.
- 3202- 07-Ctgs: Light gray hard sandstone, black shale with carbonaceous material.
- 3207- 26-Ctgs: Same.
- 3226- 37-Ctgs: Same with increasing amount of shale.
- 3237- 40-Ctgs: Light gray medium-grained sandstone and dark gray shale.
- 3240- 43-Ctgs: Same with light gray hard medium-grained sandstone.
- 3243- 46-Ctgs: SLM-50-Medium-grained sand and sandstone and black shale.
- 3250- 55-Ctgs: Light gray sandstone and gray and black shale.
- 3255- 84-Ctgs: Same.
- 3284- 94-Ctgs: Gray hard fine-grained sandstone with mica and sandy shale; dark gray shale.
- 3294-3350-Ctgs: Same.
- 3350-3440-Ctgs: Same, part of sandstone stained brown and slightly calcareous, and black shale and sandy shale.
- 3440- 97-Ctgs: Same with black dense shale.

Gasper

- 3497-3606-Ctgs: Black dense shale with **shell frag.** noted. Sandstone frag.
- 3606-3810-Ctgs: **Black dense shale and gray limestone.**
- 3810- 36-Ctgs: **Gray limestone, sandy limestone and gray medium-grained sandstone; black shale.**
- 3836- 56-Ctgs: Medium-grained sand and black shale.

Bethel

- 3856- 66-Ctgs: Fine-grained sand and black shale frag.

- 3866- 95-Ctgs: Brown limestone, brown chert and black shale.
Crinoid stems.
Brachiopod spines ?

Prob. Tuscumbia

- 3895- 96-Ctgs: Brownish gray limestone.
3896-3900-Ctgs: Same with milky chert.
3900- 03-Ctgs: Same with increasing amount of chert.
3904- 14-Ctgs: Same with brown chert.

Fort Payne

- 3917- 25-Ctgs: Same.
3932- 36-Ctgs: Same.
3936- 41-Ctgs: Same with increasing amount of brown chert.
3944- 48-Ctgs: Same.
3948- 65-Ctgs: Brown limestone and bluish brown chert.
3965- 69-Ctgs: Same.
3969- 75-Ctgs: Brown limestone and brown and bluish chert.
3975- 80-Ctgs: Same with less chert.
3980- 86-Ctgs: Bluish chert and brown limestone.
3987- 92-Ctgs: Bluish and milky chert and brown limestone.
3992-4009-Ctgs: Gray and brown limestone and chert with inclusions of green mineral and pyrite and gray limestone with green inclusions, glauconite ? Brown medium-grained sandstone.
4009- 16-Ctgs: Brownish black shale and sandstone frag.

Possible Chattanooga

- 4039- 50-Ctgs: Bluish white chert and gray limestone. **Devonian.**
4050- 61-Ctgs: Same and gray to black shale from above ?
4061- 86-Ctgs: Same and brown chert.
4104- 30-Ctgs: Same.
4130-Ctgs: White and brown chert.
4173- 75-Ctgs: Same and frag. of limestone.
4175- 80-Ctgs: White chert and small amount of limestone.
4180- 90-Ctgs: Same.
4195-4200-Ctgs: Brown limestone with small green inclusions. Chert.
4200- 05-Ctgs: Bluish chert and brown limestone.
4205- 10-Ctgs: Brown chert and limestone.
4210- 15-Ctgs: Bluish brown limestone and chert with inclusions.
4215- 19-Ctgs: Bluish chert and brown limestone.
4219- 35-Ctgs: Same.
4241- 53-Ctgs: Same.
4253- 58-Ctgs: Same, mostly chert.
4258- 75-Ctgs: Same.
4279- 84-Ctgs: Gray limestone and chert.
4284-4305-Ctgs: Same.
4305- 10-Ctgs: Gray limestone and chert.
4310- 33-Ctgs: Same.
4333- 35-Ctgs: Gray limestone and chert with a green mineral inclusions.
4335- 39-Ctgs: Same.
4339- 46-Ctgs: Brown limestone and chert.

- 4346- 52-Ctgs: Same with small green inclusions.
4352- 86-Ctgs: Same.
4386- 88-Ctgs: Gray chert and limestone.
4388- 91-Ctgs: Same.
4391- 94-Ctgs: Brownish limestone and chert.
4394- 98-Ctgs: Gray chert and brownish limestone.
4398-4401-Ctgs: Same.
4401- 15-Ctgs: Same and gray limestone.
4425- 59-Ctgs: Same.
4459- 93-Ctgs: Brown limestone and white and brownish chert.
4493- 95-Ctgs: Gray limestone and bluish chert.
4495- 98-Ctgs: Same.
4498-4507-Ctgs: Same and brown chert.
4507- 10-Ctgs: Same and brown limestone.
4510- 18-Ctgs: Same.
4518- 21-Ctgs: Brown limestone and chert, part bluish.
4521- 30-Ctgs: Same.
4530- 44-Ctgs: Same and brown chert.
4547- 50-Ctgs: Brown limestone and chert.
4550- 75-Ctgs: Same.
4575- 89-Ctgs: Same, and bluish chert.
4589- 92-Ctgs: Same.
4592- 97-Ctgs: Brown chert and limestone.
4597-4614-Ctgs: Same.
4622- 25-Ctgs: Brown limestone and chert.
4625- 57-Ctgs: Same.
4657- 62-Ctgs: Brown chert.
4662- 67-Ctgs: Brown chert and brown limestone.
4667- 76-Ctgs: Same.
4676- 80-Ctgs: Brown limestone and chert.
4680- 84-Ctgs: Same.
4684- 86-Ctgs: Brown chert and limestone.
4686- 90-Ctgs: Brown limestone and chert.
4690-4704-Ctgs: Same.
4704- 30-Ctgs: Same, and bluish chert.
4732- 45-Ctgs: Brown limestone and chert.
4747- 50-Ctgs: Same.
4760- 71-Ctgs: Same as preceding.
4771- 90-Ctgs: Same and blue chert.
4789- 91-Ctgs: Same.
4791- 98-Ctgs: Dark brown limestone and chert.
4818- 24-Ctgs: Same.
4827- 35-Ctgs: Same.
4835- 38-Ctgs: Brown and bluish chert and brown limestone.
4838- 40-Ctgs: Brown chert and limestone.
4845- 50-Ctgs: Same.
4850- 54-Ctgs: Light grayish chert and brown limestone frag.
4854- 58-Ctgs: Same.
4858- 60-Ctgs: Light gray chert and frag. of limestone.

4860-	66-Ctgs:	Same.
4866-	68-Ctgs:	Bluish white chert and frag. of light gray limestone.
4868-	70-Ctgs:	Same.
4870-	74-Ctgs:	Same and light gray limestone.
4874-	76-Ctgs:	Same with increasing amount of limestone, part with small green inclusions.
4880-	82-Ctgs:	White chert and limestone.
4882-	86-Ctgs:	Same.

Summary

Tuscaloosa	0'	to	543'
Pottsville or Pennsylvanian	543'	to	2937'
Pennington and Bangor	2937'	to	3440'±
Sand at base of Pennington—Amory ? or Carter			3118-20'
Gasper		at	3440'±
Bethel		at	3810-36'
Tuscumbia		at	3866-96'
Fort Payne		at	3914'±
Possible Chattanooga		at	4009-16'
Devonian	4039-50'	to	4886' T.D.

Stanolind Oil & Gas Co.

Jack Woods #1-A

Center NE/4 of SE/4

Sec. 23—T 14 S—R 15 W

Lamar County, Ala.

Elev. 417' derrick

Began May 16, 1944

Completed August 29, 1944

0-	20-Ctgs:	Chert gravel and coarse sand.
20-	40-Ctgs:	Gravel.
40-	50-Ctgs:	Same and medium to coarse-grained sand.
50-	60-Ctgs:	Pink and gray clay and gravel.
60-	80-Ctgs:	Same.
80-	85-Ctgs:	Pink and gray micaceous clay.
85-	95-Ctgs:	Same with gravel.
95-	105-Ctgs:	Same with sand.
105-	15-Ctgs:	Same.
115-	28-Ctgs:	Chert gravel, gray and pink clay and sand. Siderite concretions.
128-	40-Ctgs:	Variegated chert gravel, coarse sand.
140-	53-Ctgs:	Chert gravel and sand.
153-	64-Ctgs:	Medium to coarse sand with chert and mica.
164-	72-Ctgs:	Chert gravel, purple clay and sand.
172-	82-Ctgs:	Gray micaceous clay, sand and gravel.
182-	95-Ctgs:	Same with very large flakes of mica.

- 195- 205-Ctgs: Medium to coarse sand with mica, chert.
205- 15-Ctgs: Medium to coarse sand with gray clay and mica.
215- 35-Ctgs: Coarse sand and chert gravel.
235- 43-Ctgs: Medium to coarse sand and chert.
243- 60-Ctgs: Gray clay, sand and chert. Mica noted.
260- 70-Ctgs: Same.
270- 83-Ctgs: Sand and chert.
283- 95-Ctgs: Same.
295- 307-Ctgs: Chert gravel with small amount of sand.
307- 15-Ctgs: Chert gravel.
315- 23-Ctgs: Same.

Tuscaloosa

- 323- 35-Ctgs: Medium gray hard micaceous sandstone, and chert gravel from above.

Pennsylvanian

- 335- 45-Ctgs: Medium gray hard fine-grained micaceous sandstone and sandy shale.
345- 56-Ctgs: Same and gray shale.
356- 67-Ctgs: Same with more shale.
367- 83-Ctgs: Gray to black shale and sandy shale.
383- 95-Ctgs: Same.
395- 410-Ctgs: Light gray medium to fine-grained sandstone, black shale and sandy shale.
410- 20-Ctgs: Same and sand.
420- 30-Ctgs: Same with hard sandstone.
430- 40-Ctgs: Same.
440- 50-Ctgs: Same with hard brown sandstone.
450- 75-Ctgs: Same.
475- 81-Ctgs: Same.
481- 96-Ctgs: Same and medium-grained hard sandstone with asphaltic stain.

Gas at 492-500-ft.

- 496- 504-Ctgs: Same.
504- 15-Ctgs: Gray medium to fine-grained sandstone with mica and sand and sandy shale.
515- 25-Ctgs: Same.
525- 33-Ctgs: Medium-grained micaceous non-calcareous sand and sandstone.
533- 45-Ctgs: Same and brown sandstone frag.
545- 71-Ctgs: Same.
571- 80-Ctgs: Same and black carbonaceous shale frag.
580- 611-Ctgs: Same.
611- 26-Ctgs: Same and micaceous, carbonaceous sandy shale, and coarse sand.
626- 35-Ctgs: Black and gray shale and sandy shale and light gray hard fine-grained sandstone.
635- 45-Ctgs: Same and carbonaceous material noted.
645- 60-Ctgs: Light gray hard fine-grained sandstone, gray to black sandy shale.

- 660- 69-Ctgs: Same with mica.
669- 80-Ctgs: Same.
680- 89-Ctgs: Light gray hard fine-grained sandstone.
689- 98-Ctgs: Same and medium-grained sandstone.
698- 709-Ctgs: Light gray medium to fine-grained sand.
709- 22-Ctgs: Light gray fine-grained sand.
722- 47-Ctgs: Same.
747- 55-Ctgs: Light gray medium-grained sand and sandstone.
755- 67-Ctgs: Light gray fine-grained sand and sandstone, carbonaceous shale frag.

767- 75-Ctgs: Same.
775- 89-Ctgs: Same and medium-grained sandstone.
780- 800-Ctgs: Medium-grained sand and sandstone.
800- 12-Ctgs: Same and fine sand.
812- 58-Ctgs: Same.
858- 67-Ctgs: Same with carbonaceous material noted.
867- 77-Ctgs: Same.
877- 86-Ctgs: Dark gray sandy shale and small amount of medium-grained sand.

886- 979-Ctgs: Same.
979- 92-Ctgs: Black shale.
992-1005-Ctgs: Black shale.
1005- 16-Ctgs: Medium-grained sand and sandstone; black shale.
1016- 53-Ctgs: Same.
1053- 65-Ctgs: Same with some coarse-grained sand.
1065-1111-Ctgs: Same.
1111- 24-Ctgs: Same with quartz gravel.
1124- 48-Ctgs: Same.
1148- 55-Ctgs: Medium to coarse-grained sand.
1155- 58-Ctgs: Same with brown claystone, sandy.
1158- 66-Ctgs: Same with asphaltic ? residue, and chert gravel.
1166- 78-Ctgs: Very fine-grained sand.
1176- 87-Ctgs: Same.
1187- 96-Ctgs: Fine-grained sand and sandstone frag.
1196-1218-Ctgs: Same.
1218- 28-Ctgs: Light gray hard medium-grained mic. sandstone, dark gray sandy mic. shale.
1228- 46-Ctgs: Same.
1246- 61-Ctgs: Same and quartz gravel.
1261- 75-Ctgs: Same with coarse-grained sand.
1275- 90-Ctgs: Gray to black sandy micaceous, carbonaceous shale, medium-grained sand.
1290-1300-Ctgs: Medium-grained hard micaceous sandstone, dark gray sandy shale.
1300- 12-Ctgs: Same.
1312- 27-Ctgs: Same with gravel and black shale.
1327- 38-Ctgs: Medium to coarse-grained sand.
1338- 54-Ctgs: Same and coarse-grained sandstone.
1354- 65-Ctgs: Same.

- 1365- 77-Ctgs: Same and fine-grained sand.
1377- 91-Ctgs: Medium and fine-grained sand.
1391-1404-Ctgs: Same.
1404- 11-Ctgs: Fine-grained sand.
1411- 25-Ctgs: Same and sandstone.
1425- 38-Ctgs: Same with mica.
1438- 50-Ctgs: Fine-grained sand.
1450- 71-Ctgs: Same.
1471- 85-Ctgs: Medium to fine-grained sand, sandy shale frag.
1485-1530-Ctgs: Same.
1530- 42-Ctgs: Medium-grained sand.
1542- 51-Ctgs: Same and fine-grained sand.
1551- 63-Ctgs: Same.
1563- 78-Ctgs: Medium to coarse-grained sand.
1578-1607-Ctgs: Same.
1607- 18-Ctgs: Same with very coarse-grained sand.
1618- 33-Ctgs: Medium-grained sand.
1633- 50-Ctgs: Coarse-grained sand and gravel.
1650- 65-Ctgs: Same with medium-grained sand.
1665- 85-Ctgs: Medium-grained sand.
1685-1706-Ctgs: Medium to coarse-grained sand.
1706- 21-Ctgs: Medium-grained sand, coarse-grained sand and gravel.
1721- 32-Ctgs: Medium to coarse-grained sand, shale frag.
1745- 55-Ctgs: Light gray hard fine-grained sandstone, black shale.
1755- 65-Ctgs: Coal and black carb. shale, light gray hard fine-grained sandstone.
1765- 75-Ctgs: Light gray fine-grained sand and sandstone, black carb. shale.
1775- 90-Ctgs: Fine-grained sand.
1790-1805-Ctgs: Same and hard sandstone and black shale.
1805- 19-Ctgs: Same.
1819- 37-Ctgs: Same and sandy micaceous shale.
1837- 50-Ctgs: Same.
1850- 65-Ctgs: Light gray hard micaceous fine-grained sandstone and sandy mic. shale.
1865- 80-Ctgs: Same and black shale.
1880- 99-Ctgs: Same.
1899-1920-Ctgs: Black shale and sandy shale.
1920- 35-Ctgs: Dense black shale with micaceous sandy shale.
1935- 55-Ctgs: Same.
1955- 74-Ctgs: Gray micaceous, carbonaceous shale.
1974- 95-Ctgs: Gray and black micaceous, carbonaceous sandy shale.
1995-2013-Ctgs: Same.
2013- 25-Ctgs: Same with coarse-grained fossiliferous sandstone and sandy shale.
2025- 40-Ctgs: Same with more medium-grained hard sandstone.
2040- 55-Ctgs: Black shale, light gray hard fine-grained sandstone with inclusions of siderite concretions.

- 2055- 71-Ctgs: Gray and black shale and sandy shale, siderite concretions.
Shell frag.
- 2071- 85-Ctgs: Black and gray shale, siderite concretions noted.
- 2085-2100-Ctgs: Gray and black shale, slightly fossiliferous.
- 2100- 11-Ctgs: Light gray hard fine-grained sandstone, black shale and gray sandy shale, gray shale with siderite concretions.
- 2111- 28-Ctgs: Gray hard medium to fine-grained sandstone with mica, gray and black shale.
- 2128- 45-Ctgs: Same and gray sandy shale.
- 2145- 59-Ctgs: Same with siderite inclusions noted.
- 2159- 80-Ctgs: Same with hard sandstone frag., gray soft shale.
- 2180- 95-Ctgs: Gray to black shale, siderite inclusions noted in gray shale.
- 2195-2208-Ctgs: Same.
- 2208- 16-Ctgs: Same with sandstone and sandy shale. Brown limestone frag.
- 2216- 43-Ctgs: Same.
- 2243- 58-Ctgs: Same.
Crinoid stems noted.
- 2258- 75-Ctgs: Same.
- 2275- 87-Ctgs: Gray fossiliferous shale carrying **crinoid stems**. Limestone frag. with **crinoid stems**; greenish gray shale.
- 2287-2301-Ctgs: Same with brown limestone.
- 2301- 16-Ctgs: Same.
- 2316- 35-Ctgs: Gray and black shale, fossiliferous.
- 2335- 45-Ctgs: Black and gray shale, fossiliferous; **crinoid stems abundant**; greenish shale with siderite concretions.

Pennington ?

- 2345- 55-Ctgs: Same.
Shell frag.
- 2355- 62-Ctgs: Same.
- 2362- 69-Ctgs: Gray shale, slightly carbonaceous, brown limestone, siderite concretions, **crinoid stems** noted.
- 2369- 75-Ctgs: Gray shale. Brown limestone frag.
- 2375- 80-Ctgs: Gray shale slightly fossiliferous, brown fossiliferous limestone, reddish brown clay, siderite concretions.
Crinoid stems.
Archimedes ? frag.

Pennington

- 2380- 90-Ctgs: Gray to black shale; fossiliferous limestone frag., siderite concretions.
- 2390- 91-Ctgs: Gray and black shale; siderite concretions noted; reddish brown clay noted, brown limestone frag.
Gastropod noted.
- 2401- 13-Ctgs: Same, more fossiliferous, and gray limestone. Gray clay with siderite concretions.
Crinoid stems.
Gastropods noted.

2413- 25-Ctgs: Same.

Gas at 2420-22.

- 2425- 35-Ctgs: Same with green clay frag. and medium-grained sand with oil staining. Siderite concretions.
2435- 46-Ctgs: Medium-grained sand.
2446- 52-Ctgs: Same.
2452- 72-Ctgs: Same.
2472- 82-Ctgs: Same and sandstone frag.
2482- 90-Ctgs: Same and hard fine-grained sandstone.
2490-2504-Ctgs: Same and sandy shale.
2504- 15-Ctgs: Same.
2515- 26-Ctgs: Fine-grained hard sandstone, dark gray sandy shale.
2526- 35-Ctgs: Black and gray hard shale. Brown claystone.
2535- 46-Ctgs: Same.
2546- 55-Ctgs: Black shale with brown claystone.
2555- 65-Ctgs: Same and brown limestone, fossiliferous.
2565- 72-Ctgs: Same and lime frag. noted.
Shell frag.
Small gastropods.

Bangor

- 2572- 79-Ctgs: Same, fossiliferous.
2581- 89-Ctgs: Brown chert and cherty limestone and gray limestone.
2589- 93-Ctgs: Gray limestone and brown cherty limestone.
2593-2601-Ctgs: Gray limestone and dark brown cherty limestone.
2601- 15-Ctgs: Gray and brown limestone and black shale.
2612- 26-Ctgs: Same.
2626- 32-Ctgs: Same, fossiliferous.
Ostracods noted.
2632- 41-Ctgs: Same.
2641- 50-Ctgs: Same with brown chert.
2650- 60-Ctgs: Same.
2660- 70-Ctgs: Same with increasing amount of shale.
2670- 80-Ctgs: Gray to black shale, part fossiliferous.
2680- 92-Ctgs: Same and brown dense limestone, part cherty.
2692-2707-Ctgs: Same.
2707- 25-Ctgs: Black and gray shale, slightly fossiliferous.
2725- 38-Ctgs: Black and gray shale and limestone frag.
2738-2857-Ctgs: Same.
2857- 66-Ctgs: Black shale.
2866- 73-Ctgs: Dense black shale.
2873-2965-Ctgs: Same.
2965- 76-Ctgs: Light gray limestone and medium-grained sandstone.
Good oil staining in sand.
Crinoid stems noted.

Bethel ?

Gas—2973-3037'.

- 2975- 85-Ctgs: Same.
Bryozoa from above.

- 2985- 96-Ctgs: Light gray medium-grained hard sandstone.
 2996-3018-Ctgs: Same.
 3018- 26-Ctgs: Light gray somewhat coarser sand and sandstone.
 3026- 37-Ctgs: Same.

Bethel

- 3037- 50-Ctgs: Gray to black shale.
 3050- 61-Ctgs: Same.
 3061- 74-Ctgs: Light gray crystalline limestone, part with brown stain.

Tuscumbia

- 3074- 86-Ctgs: Same.
 Crinoid stems.
 3086-3103-Ctgs: Same somewhat cavernous and with brown stain.
 3103- 15-Ctgs: Same.
 3115- 25-Ctgs: Same and white chert.
 3125- 34-Ctgs: Gray and brownish crystalline limestone.
 3134- 45-Ctgs: Same with brown chert.

Fort Payne

- 3145- 54-Ctgs: Brown and bluish chert and brown limestone.
 3154- 66-Ctgs: Same.
 3166- 70-Ctgs: Same with brown limestone.

Summary

Tuscaloosa	to.....	323'
Pennsylvanian	at.....	323-35'
Pennington	at.....	2335' ?
Bangor	at.....	2565-72'
Possible Bethel	2965-76' to.....	3037'
Tuscumbia	at.....	3061'
Fort Payne	at.....	3134-45'

Otis D. Coston
 H. S. Hankins #1
 Center NW/4 of NW/4
 Sec. 32—T 14 S—R 14 W
 Lamar County, Ala.

Elev. 540 ft. D. F.
 Began December 13, 1952
 Completed January 20, 1953

- 0- 30-Ctgs: Medium-grained sand with greenish clay.

Tuscaloosa

- 30- 60-Ctgs: Coarse sand and chert gravel and reddish brown and purple clay.
 60- 90-Ctgs: Same and medium-grained sand.
 90- 120-Ctgs: Chert gravel.
 120- 50-Ctgs: Purple, dark red and buff-colored clay with mica.

- 150- 80-Ctgs: Medium to slightly coarse sand stained red and yellow.
180- 270-Ctgs: Same.
270- 300-Ctgs: Same and gray micaceous, carbonaceous clay.
300- 30-Ctgs: Same and gravel and sandy ironstone.
360- 90-Ctgs: Same.
390- 420-Ctgs: Chert gravel.
420- 50-Ctgs: Same.
450- 80-Ctgs: Gray soft micaceous, carbonaceous shale and gray medium-grained micaceous sandstone with white spotted appearance. Carbonaceous material.

Pennsylvanian

- 480- 510-Ctgs: Gray hard medium-grained sandstone with mica and dark gray hard micaceous, carbonaceous shale.
510- 40-Ctgs: Gray medium-grained hard micaceous sandstone.
540- 70-Ctgs: Same and black micaceous, carbonaceous sandy shale.
570- 600-Ctgs: Black hard micaceous, carbonaceous shale.
600- 30-Ctgs: Same and sandy shale.
660- 90-Ctgs: Black micaceous, carbonaceous shale, and medium-grained sandstone, slightly asphaltic.
690- 720-Ctgs: Black hard micaceous, carbonaceous sandy shale and sandstone.
720- 30-Ctgs: Same.
730- 40-Ctgs: Same with very carbonaceous shale. Frag. of coal.
740- 90-Ctgs: Same.
790- 810-Ctgs: Light gray medium-grained sandstone and sandy shale and black micaceous, carbonaceous shale.
810- 20-Ctgs: Light gray coarse-grained sandstone and medium gray sandy shale.
820- 30-Ctgs: Light gray medium-grained sandstone and sand and medium gray sandy shale.
830- 50-Ctgs: Same.
850- 60-Ctgs: Same and dark gray carbonaceous shale.
860- 80-Ctgs: Same.
880- 90-Ctgs: Same with black micaceous carbonaceous shale.
890- 900-Ctgs: Light gray medium-grained sandstone, sandy shale and black micaceous, carbonaceous shale.
900- 20-Ctgs: Same.
920- 30-Ctgs: Same with medium gray sandy shale. Frag. of coal and carbonaceous shale.
930- 40-Ctgs: Light gray medium-grained sandstone and medium gray micaceous sandy shale.
940- 60-Ctgs: Same.
960- 70-Ctgs: Same. Medium gray micaceous, carbonaceous sandy shale and sand.
Crinoid stems noted.
970- 80-Ctgs: Same.
980- 90-Ctgs: Same. Brown claystone noted. Coal frag. and carbonaceous shale.
990-1020-Ctgs: Same.

- 1020- 30-Ctgs: Same.
Crinoid stems.
- 1030- 50-Ctgs: Same.
- 1050- 60-Ctgs: Same with more brown claystone.
Crinoid stems.
- 1060- 70-Ctgs: Light gray medium-grained sandstone.
- 1070- 90-Ctgs: Same.
- 1090-1100-Ctgs: Same and sand.
- 1100- 10-Ctgs: Same.
- 1110- 20-Ctgs: Black carbonaceous shale and dark gray sandy shale.
- 1120- 30-Ctgs: Same and light gray medium-grained sandstone.
- 1130- 40-Ctgs: Same.
- 1140- 50-Ctgs: Black micaceous, carbonaceous shale and sandy shale.
- 1150-1260-Ctgs: Same.
- 1260- 70-Ctgs: Same with light brown medium-grained porous sandstone,
oil stained.
- 1270- 80-Ctgs: Same and sand.
- 1280- 90-Ctgs: Same with brown claystone.
- 1290-1300-Ctgs: Gray hard sandy shale with mica and carbonaceous material and oil stained medium-grained porous sandstone.
- 1310- 20-Ctgs: Same.
- 1320- 30-Ctgs: Light gray medium-grained sandstone with coarse-grained sand.
- 1330- 40-Ctgs: Same with pebbles.
- 1340- 60-Ctgs: Same.
- 1360- 70-Ctgs: Light gray medium-grained sandstone.
- 1370- 80-Ctgs: Same and dark gray sandy shale.
- 1380- 90-Ctgs: Light gray medium-grained sandstone with coarse quartz pebbles.
- 1390-1400-Ctgs: Same and coarse sand grains.
- 1400- 10-Ctgs: Light gray coarse-grained sandstone with pebbles.
- 1410- 50-Ctgs: Same.
- 1450- 60-Ctgs: Coarse sand and gravel.
- 1460- 70-Ctgs: Same.
- 1470- 80-Ctgs: Gravel.
- 1480- 90-Ctgs: Light gray hard sandstone and sandy shale.
- 1490-1500-Ctgs: Light gray medium-grained hard sandstone.
- 1500- 50-Ctgs: Same.
- 1550- 60-Ctgs: Light gray medium and coarse-grained sandstone.
- 1560- 70-Ctgs: Same and light brown medium-grained sandstone.
- 1570- 90-Ctgs: Same.
- 1590-1600-Ctgs: Same with carbonaceous material.
- 1600- 20-Ctgs: Same.
- 1620- 30-Ctgs: Same with asphaltic ? material.
- 1630- 40-Ctgs: Same and brown claystone.
- 1640- 50-Ctgs: Light gray medium-grained sandstone.
- 1650- 60-Ctgs: Same.
- 1660- 70-Ctgs: Light gray hard medium-grained sandstone with mica.

- 1670- 80-Ctgs: Gray hard sandy shale with mica and carbonaceous material.
1680- 90-Ctgs: Same and brown claystone.
1690-1700-Ctgs: Coal noted.
1690-1710-Ctgs: Same.
1710- 20-Ctgs: Same and medium-grained gray and brown sandstone.
1720- 30-Ctgs: Gray hard sandy shale and black micaceous carbonaceous shale.
1730- 80-Ctgs: Same.
1780- 90-Ctgs: Light gray coarse-grained sandstone with pebbles.
1790-1800-Ctgs: Light gray hard medium and fine-grained sandstone and black micaceous, carbonaceous shale.
1800- 10-Ctgs: Coarse-grained sandstone with pebbles.
1810- 20-Ctgs: Same and sand.
1820- 30-Ctgs: Same with sandy shale and black micaceous, carbonaceous shale.
1830- 40-Ctgs: Fine-grained sandstone and sandy shale.
1840- 50-Ctgs: Same.
1850- 60-Ctgs: Coarse-grained sandstone and black micaceous, carbonaceous shale.
1860- 70-Ctgs: Same and sandy shale.
1870- 80-Ctgs: Same with pebbles.
1880- 90-Ctgs: Same with more pebbles.
1890-1900-Ctgs: Light gray medium-grained sandstone and pebbles.
1900- 10-Ctgs: Gray hard sandy shale with black micaceous, carbonaceous shale.
1910- 40-Ctgs: Same.
1940- 50-Ctgs: Same with more black micaceous, carbonaceous shale.
1950- 60-Ctgs: Same.
1960- 70-Ctgs: Light gray hard fine-grained sandstone.
1970- 80-Ctgs: Same and black micaceous, carbonaceous shale and sandy shale.
1980- 90-Ctgs: Same and brown claystone.
1990-2140-Ctgs: Same.
2140- 50-Ctgs: Black micaceous, carbonaceous shale and sandy shale.
2150- 90-Ctgs: Same.
2190-2200-Ctgs: Gray sandy micaceous shale.
2200- 10-Ctgs: Dark gray micaceous, carbonaceous shale.
2210- 20-Ctgs: Same.
2220- 30-Ctgs: Same and black micaceous, carbonaceous sandy shale.
2230- 40-Ctgs: Same.
2240- 50-Ctgs: Same and light gray medium-grained sandstone. Brown claystone fossiliferous.
2250- 60-Ctgs: Same with **crinoid stems**.
2260- 70-Ctgs: Light gray medium to fine-grained sandstone and sandy shale.
2270- 80-Ctgs: Same.
2280- 90-Ctgs: Light gray hard fine-grained sandstone and sandy shale.
2290-2300-Ctgs: Same.

- 2300- 10-Ctgs: Gray hard sandy shale with mica.
 2310- 50-Ctgs: Same.
 2350- 60-Ctgs: Same and light gray hard medium-grained sandstone.
 2360- 70-Ctgs: Light gray hard medium-grained sandstone.
 2370- 80-Ctgs: Same and sandy shale.
 2380- 90-Ctgs: Gray sandy shale and gray clay with siderite concretions.
 2390-2400-Ctgs: Light gray medium-grained sandstone, brown claystone, gray clay with abundant small siderite concretions.
 2400- 10-Ctgs: Light gray hard medium-grained sandstone black carbonaceous shale, dark gray shale with siderite concretions.
 2410- 20-Ctgs: Same and black shale.
 2420- 30-Ctgs: Black shale, brown claystone, gray clay.
 Crinoid stems.
 2430- 40-Ctgs: Gray hard medium-grained sandstone brown claystone, black shale.
 2440- 50-Ctgs: Black shale and gray clay with siderite concretions. Gray brittle shale.
 2450- 60-Ctgs: Gray sandy shale, gray clay with siderite concretions.
 2460- 70-Ctgs: Light gray medium-grained sandstone and sand.
 2470- 80-Ctgs: Gray sandy shale, brown claystone and dark gray shale.
 2480- 90-Ctgs: Same and brown lime with **crinoid stems**.
 Brachiopod frag.

Pennington

- 2490-2520-Ctgs: Same.
 2520- 30-Ctgs: Gray limestone with **crinoid stems**. Black oolites noted.
 2525-Ctgs: Gray limestone with **crinoid stems**.
 2530- 40-Ctgs: Gray, green and red clay. Greenish lime.
 Small gastropods.
 2535-Ctgs: Same.
 2540- 50-Ctgs: Same.
 2543-Ctgs: Same with more greenish limestone.
 2550- 60-Ctgs: Dark gray, dark red and green shale. Lime frag.
 2560- 70-Ctgs: Same.
 2570- 80-Ctgs: Same.
 Crinoid stems.
 Ostracods.
 Forams.
 2580- 90-Ctgs: Dark gray to black shale.
 Crinoid stems.
 Small gastropods.
 Small pelecypods.
 Ostracods.
 Forams.
 2590-2600-Ctgs: Dark gray shale. Gray lime.
 Crinoid stems.
 2600- 10-Ctgs: Same.
 2610- 20-Ctgs: Gray and greenish lime, gray, green and red shale.
 Shells.
 2620- 30-Ctgs: Gray, pinkish and green clay.

- 2630- 40-Ctgs: Same and gray limestone with small oolites.
2640- 50-Ctgs: Light gray limestone.
2646-Ctgs: Same and red and green shale from above.
2650- 60-Ctgs: Light gray limestone, slightly oolitic.
2660- 70-Ctgs: Same.
2664-Ctgs: Same.
2667-Ctgs: Same.
2670- 80-Ctgs: Same and medium to fine-grained sandstone.

Carter Sand

- 2677-Ctgs: Dark red and green clay and greenish lime; medium-grained sand and sandstone.
2680-Ctgs: Same.
2680—Circ.— Same and more medium-grained sandstone, part with asphaltic ? material.

Core #1—2680-2700'

- 2680- 81—Core— Light gray hard fine-grained, silty, slightly calcareous sandstone.
2681- 82—Core— Same.
2682- 83—Core— Same, slightly coarser.
2683- 84—Core— Same as preceding.
2684- 85—Core— Light gray medium to fine-grained sandstone.
2685- 86—Core— Light gray hard fine-grained sandstone.
2686- 87—Core— Same.
2687- 88—Core— Same.
2688- 89—Core— Same.
2689- 90—Core— Same, slightly coarser.
2690- 91—Core— Same.
2691- 92—Core— Light gray hard medium to fine-grained sandstone.
2692- 93—Core— Same.
2693- 94—Core— Same.
2694- 95—Core— Same as preceding.
2695- 96—Core— Light gray hard medium-grained slightly calcareous sandstone and dark gray shale.
2696- 97—Core— Light gray hard fine-grained slightly calcareous sandstone.
2697- 98—Core— Same.
2698- 99—Core— Light gray hard fine-grained sandstone with black micaceous, carbonaceous shale lenses.
2699-2700—Core— Black hard micaceous, carbonaceous shale with sand lenses.
2700- 05-Ctgs: Light gray medium-grained sandstone.
2705- 10-Ctgs: Same.
2710- 15-Ctgs: Same **slightly oil stained**, and light gray hard fine-grained sandstone.
2715- 20-Ctgs: Same and sandy shale.
2720- 25-Ctgs: Same.
2725- 30-Ctgs: Gray hard sandy shale.
2730- 35-Ctgs: Same and black shale.
2735- 40-Ctgs: Same and more black shale.
2740- 50-Ctgs: Black micaceous, carbonaceous shale and brown claystone.

- 2750- 70-Ctgs: Same.
 2770- 80-Ctgs: Black shale, slightly fossiliferous.
 2780- 90-Ctgs: Brown hard limestone.
 2790-2800-Ctgs: Same, fossiliferous; and black shale.
 2800- 10-Ctgs: Light gray and brown hard dense limestone.
 2810- 30-Ctgs: Same.
 2830- 40-Ctgs: Same.
 2840- 50-Ctgs: Gray and brown limestone and black splintery shale, fossiliferous.
 2850- 60-Ctgs: Brown hard dense limestone, part chert; black shale, fossiliferous.
 2860- 70-Ctgs: Same, chert; and black shale.
 2870- 80-Ctgs: Same, fossiliferous.
 2880-2910-Ctgs: Same.
 2910- 20-Ctgs: Brown shaly lime and black shale.
 2920- 40-Ctgs: Same.
 2940- 50-Ctgs: Same and brown dense limestone. Pyrite.
 2950- 60-Ctgs: Same and dark brown chert. Frag. of gray sandy oolitic limestone.
 2960- 70-Ctgs: Black shale and brown shaly lime.
 2970- 80-Ctgs: Same.
 2980- 90-Ctgs: Same and brown lime.
 2990-3000-Ctgs: Same.

2997—Lost circ.—Same as preceding.

- 3000- 10-Ctgs: Brown hard silty limestone, very finely granular. Black shale with fine mica.
 3010- 20-Ctgs: Same with more shale.
 3020- 30-Ctgs: Same with fine pyrite in the limestone.
 3030- 40-Ctgs: Same.
 3040- 50-Ctgs: Black dense carbonaceous shale with fine mica.
 3050- 60-Ctgs: Same.
 3060- 70-Ctgs: Same with frag. of brown lime. Pyrite.

In Gasper

- 3070-3150-Ctgs: Same.
 3150- 60-Ctgs: Same, slightly fossiliferous. Pyrite in black shale.
 3160- 70-Ctgs: Same, fossiliferous.
 3170- 79-Ctgs: Light gray limestone slightly oolitic, fossiliferous.
 3176- 79-Ctgs: Light gray limestone oolitic, fossiliferous.

Core #2—3317-3212'

- 3177- 78—Core— Grayish brown oolitic and sandy limestone, very fossiliferous.
 3178- 79—Core— Grayish brown oolitic very fossiliferous limestone.
 3179- 80—Core— Grayish brown oolitic sandy limestone.
 3180- 81—Core— Same, more sandy than preceding. Shale lenses.
 3181- 82—Core— Same as preceding.
 3182- 83—Core— Grayish brown very fossiliferous. Oolitic limestone. Shale in core.
 3183- 84—Core— Same as preceding.

- 3184- 85—Core— Same as preceding, sandy.
3185- 87—Core— Same as preceding. More sandy shale lensing.
3187- 88—Core— Grayish brown oolitic fossiliferous, limestone. Shale in core.
3188- 89—Core— Grayish brown sandy oolitic limestone, fossiliferous.
3189- 90—Core— Grayish brown limestone becoming more sandy than preceding. Shale in portion of the core.
3190- 91—Core— Same becoming more sandy.
3191- 93—Core— Same.
3193- 94—Core— Gray sandy limestone, fossiliferous. Shale lenses in core.
3194- 95—Core— Gray sandy fossiliferous limestone.
3195- 96—Core— Light gray sandy limestone, fossiliferous. Pyrite in core.
3196- 97—Core— Light gray hard sandy limestone fossiliferous, with pyrite in core. Part of core darker and more sandy. Greenish shale noted in core.
3197- 98—Core— Light gray sandy limestone.
Brachiopods.
Fenestella Bryozoa.
3198- 99—Core— Gray more sandy limestone than preceding.
3190-3200—Core— Black micaceous shale with fine-grained sand lenses
3200- 01—Core— Same with brownish sand in core.
3201- 02—Core— Same.
3202- 03—Core— Medium-grained hard slightly brown stained sandstone with asphaltic ? residue in core. Shale in part of core.
3203- 04—Core— Same, fossiliferous. Part of sandstone coarser than in preceding core.
3204- 05—Core— Same with more brown staining.
3205- 06—Core— Grayish brown hard sandstone with black shale lenses.
3206- 07—Core— Grayish brown hard fine-grained sandstone with black shale lenses.
3207- 08—Core— Same with fine pyrite.
3208- 09—Core— Grayish brown hard fine-grained calcareous sandstone.
3209- 10—Core— Same with brown staining.
3210- 11—Core— Same with black shale lenses.
3211- 12—Core— Same.
Core #3—3212-3234'
3213- 14—Core— Same with greenish shale through core.
3214- 16—Core— Same with shale lenses.
3216- 17—Core— Same.
3217- 18—Core— Light and medium gray hard fine-grained sandstone with gray shale lenses. Core fractured ?
3218- 19—Core— Gray hard fine-grained sandstone with shale lenses and inclusions.
3219- 20—Core— Gray hard fine-grained sandstone with brown staining, with black shale lenses.
3220- 21—Core— Black non-calcareous shale with fine pyrite.
3221- 22—Core— Same with fine-grained sandstone lenses.
3222- 23—Core— Black shale and gray hard fine-grained sandstone with slight brown staining.

- 3223- 24—Core— Gray hard medium-grained sandstone, calcareous.
 3224- 25—Core— Gray hard medium-grained sandstone with green shale inclusions, fossiliferous, and black shale. Fine pyrite in core.
 3225- 26—Core— Black shale and fine-grained sandstone.
 3226- 27—Core— Black shale and medium-grained hard sandstone slightly brown stained, fossiliferous.
 3227- 28—Core— Black micaceous, carbonaceous with sand lenses.
 3228- 29—Core— Same and sandy shale.
 3229- 30—Core— Gray medium-grained hard sandstone with oil stain and odor.

Bethel

- 3230- 31—Core— Same as preceding. Inclusions of gray shale.
 3231- 32—Core— Same. Inclusions of pieces of gray shale.
 3232- 33—Core— Gray hard medium-grained sandstone with brown oil staining.
 3233- 34—Core— Same with inclusions of gray shale.

Core #4—3234'-45'

- 3234- 35—Core— Gray hard medium-grained sandstone with gray clay inclusions.
 Brown oil staining.
 3235- 36—Core— Same as preceding.
 3236- 37—Core— Same with eroded surfaces within core. Pyritized carbonaceous material. Asphaltic ? residue in core.
 3237- 38—Core— Gray hard medium-grained sandstone with brown oil staining.
 3238- 39—Core— Same.
 3239- 40—Core— Same with gray clay inclusions. Eroded surfaces within core.
 3240- 41—Core— Same and fine-grained hard sandstone.
 3241- 42—Core— Gray hard fine-grained sandstone with shale in core. Brown oil staining.
 3242- 43—Core— Gray hard fine-grained sandstone with brown oil staining. Eroded surfaces in core.
 3243- 44—Core— Gray hard fine-grained sandstone with brown oil staining.
 3244- 45—Core— Gray hard fine-grained sandstone with brown oil staining.

Core #5—3245-69'

- 3245- 46—Core— Same as preceding.
 3246- 47—Core— Gray hard fine-grained and medium-grained sandstone with brown oil staining. Slight eroded surfaces. Carbonaceous material in core.
 3247- 48—Core— Same. Mica in core.
 3248- 49—Core— Gray hard fine-grained sandstone with mica. Carbonaceous material. Brown oil staining.
 3249- 51—Core— Same, and medium-grained sandstone with brown oil staining. Pyritized carbonaceous material through core. Eroded surfaces in core.
 3251- 52—Core— Gray hard medium to fine-grained sandstone with brown oil staining.

- 3252- 58—Core— Same.
 3258- 59—Core— Same and light gray hard quartzitic calcareous sandstone, slightly fossiliferous.
 3259- 60—Core— Gray hard medium to fine-grained sandstone with brown oil staining and light gray hard quartzitic calcareous sandstone with spotted oil staining, slightly fossiliferous.
 3260- 61—Core— Gray hard medium-grained sandstone with slight oil staining.
 3261- 62—Core— Same.
 3262- 63—Core— Same with asphaltic residue, core shows cavernous areas.
 3263- 64—Core— Same with brown oil staining.
 3264- 65—Core— Gray hard medium-grained sandstone with asphaltic residue in part of core.
 3265- 66—Core— Gray hard medium-grained sandstone with brown oil staining. Cavernous areas.
 3266- 67—Core— Same, with fine-grained sandstone.
 3267- 68—Core— Light gray hard medium-grained sandstone calcareous, with slight staining and small shale inclusions.
 3268- 69—Core— Light gray hard medium-grained sandstone, calcareous. **Shell impressions.** Small inclusions of shale.

Core #6—3270-3320'

- 3280- 81—Core— Gray limestone, coarsely crystalline, fossiliferous.

Tuscumbia

- 3281- 82—Core— Same very fossiliferous.
 Brachiopods.
 3282- 83—Core— Same, very fossiliferous.
 3283- 84—Core— Gray fossiliferous limestone, less coarsely crystalline than preceding.
 3284- 85—Core— Same.
 3285- 86—Core— Same with calcite veins.
 3286- 87—Core— Same with light gray chert.
 3287- 89—Core— Gray coarsely crystalline limestone, fossiliferous. Eroded areas noted.
 3289- 90—Core— Same.
 3290-3293—Core— Grayish brown coarsely crystalline limestone, fossiliferous. Brachiopods.
 3293- 94—Core— Grayish brown cherty limestone with oil staining. Erosional surfaces.
 3294- 95—Core— Grayish brown crystalline limestone.
 3295- 96—Core— Grayish brown crystalline limestone with erosional surfaces. Part of core chert.
 3296- 97—Core— Grayish limestone with bluish chert; oil staining in core.
 3297-3299—Core— Grayish brown coarsely crystalline limestone.
 3299-3300—Core— Same, fossiliferous.
 3300- 01—Core— Gray crystalline limestone with strong erosional surfaces.
 3301- 02—Core— Gray coarsely crystalline limestone.
 3302- 04—Core— Same.
 3304- 05—Core— Grayish brown crystalline limestone. Strong erosional surfaces. Bluish chert in core.

- 3305- 06—Core— Grayish brown crystalline limestone.
 3306- 07—Core— Same with erosional surfaces.
 3307- 08—Core— Grayish brown crystalline limestone.
 3308- 10—Core— Grayish brown crystalline limestone with chert.
 3310- 11—Core— Grayish brown crystalline limestone with chert.
 3311- 12—Core— Grayish brown coarsely crystalline limestone.
 3312- 13—Core— Same with slight brown staining.
 3313- 14—Core— Same.
 3314- 15—Core— Gray and brown limestone with strong erosional surfaces
 3315- 16—Core— Gray crystalline limestone, slightly brown stained.
 3316- 17—Core— Gray crystalline limestone.
 3317- 18—Core— Gray crystalline limestone.
 3318- 19—Core— Grayish brown crystalline limestone.
 3319- 20—Core— Grayish brown crystalline limestone with oil ? staining.

Summary

Tuscaloosa	0'	to.....	450-80'
Pennsylvanian	450-80'	to.....	2480'
Pennington and Bangor	2480-90'	to.....	3060' ±
Carter Sand	2670'	ot.....	2725'
In Gasper		at.....	3060'
In Bethel		at.....	3229-30'

Gap of 10 ft. in top of Core #6, that is, from.....3270-80'

Tuscumbia

	at.....	3280'
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Deepened by Mr. P. A. Buchanon to 3372 ft., May and June, 1953

W. T. Durant
 W. L. & F. Ogden #1
 NE/4 of NW/4
 Sec. 6—T 14 S—R 15 W
 Lamar County, Alabama

Elevation 378 ft. D. F.
 Began April 17, 1953
 Completed December 29, 1953

1- 20-Ctgs: Chert and coarse-grained sand.

Tuscaloosa

- 20- 34-Ctgs: Same.
 34- 40-Ctgs: Same with very coarse gravel, variegated.
 40- 45-Ctgs: Gravel.
 45- 55-Ctgs: Same.
 55- 61-Ctgs: Coarse sand and variegated gravel.
 61- 70-Ctgs: Same with coarse mica.
 70- 80-Ctgs: Same with more coarse-grained sand.
 80- 90-Ctgs: Slightly coarse sand and chert gravel.

90-	100-Ctgs:	Chert gravel.
100-	20-Ctgs:	Same.
120-	30-Ctgs:	Same and light gray micaceous clay.
130-	40-Ctgs:	Same.
140-	45-Ctgs:	Dark red clay medium to coarse sand, chert gravel.
140-	50-Ctgs:	Slightly coarse-grained sand and chert gravel.
150-	60-Ctgs:	Same.
160-	70-Ctgs:	Same, variegated.
170-	80-Ctgs:	Same.
180-	90-Ctgs:	Same with brown sandy ironstone and gray clay.
190-	95-Ctgs:	Slightly coarse variegated sand and dark gray clay.
195-	200-Ctgs:	Dark gray clay with mica and carbonaceous material.
200-	05-Ctgs:	Gray micaceous clay with siderite concretions and sand.
205-	15-Ctgs:	Variegated chert gravel and sand.
215-	23-Ctgs:	Slightly coarse-grained clear sand, etched and angular grains.
223-	33-Ctgs:	Variegated chert gravel and coarse sand.
233-	40-Ctgs:	Same.
245-	50-Ctgs:	Same with red and gray clay.
250-	58-Ctgs:	Brown hard claystone and siderite ? Dark gray clay and carbonaceous material.
258-	65-Ctgs:	Same with lignite and pyrite.
265-	70-Ctgs:	Abundant small siderite concretions, lignite and pyritized wood and gray clay.
270-	82-Ctgs:	Same.
290-	300-Ctgs:	Gray micaceous, carbonaceous shale with siderite.
300-	10-Ctgs:	Medium-grained sand with chert.
310-	15-Ctgs:	Gray micaceous, carbonaceous shale with siderite. Slightly coarse sand.
315-	24-Ctgs:	Slightly coarse-grained sand with chert.
324-	28-Ctgs:	Same with large siderite concretions. Gray micaceous clay.
328-	32-Ctgs:	Large siderite concretions and sand with reddish brown and gray clay.
332-	35-Ctgs:	Dark reddish brown, green and gray clay and large siderite concretions. Sand.
335-	37-Ctgs:	Same.
337-	44-Ctgs:	Siderite concretions and medium to fine-grained sand, part chert.
344-	50-Ctgs:	Same and light gray sandy clay.
350-	57-Ctgs:	Chert gravel and siderite concretions. Pyrite.
357-	63-Ctgs:	Large chert gravel.
363-	65-Ctgs:	Same and medium-grained sand and pyrite encrusting chert.
365-	67-Ctgs:	Same and sand with rounded grains.
367-	400-Ctgs:	Same.
400-	05-Ctgs:	Same with more medium-grained rounded sand grains.
405-	12-Ctgs:	Same.

412- 15-Ctgs: Same and gray hard fine-grained sandstone.

Pennsylvanian

415- 19-Ctgs: Same and gray fine-grained sandstone.

421- 25-Ctgs: Gray hard fine-grained sandstone and sandy micaceous, carbonaceous shale.

425- 28-Ctgs: Gray hard medium and fine-grained micaceous sandstone. Carbonaceous material.

428- 33-Ctgs: Same.

433- 37-Ctgs: Same and sandy shale.

437- 47-Ctgs: Same.

447- 52-Ctgs: Gray hard fine-grained sandstone and sand with mica.

452- 58-Ctgs: Same with carbonaceous material.

458- 63-Ctgs: Same and dark gray sandy carbonaceous shale.

463- 68-Ctgs: Dark gray micaceous, carbonaceous sandy shale.

468- 75-Ctgs: Same and black carbonaceous shale.

475- 81-Ctgs: Coal and black carbonaceous shale. Dark gray sandy carbonaceous shale.

481- 87-Ctgs: Light gray medium-grained sand and sandstone. Black carbonaceous shale and coal.

487- 92-Ctgs: Gray medium and fine-grained sand.

492- 98-Ctgs: Medium to fine-grained sand.

498- 505-Ctgs: Same and sandstone.

505- 10-Ctgs: Same.

510- 15-Ctgs: Same with coarser sand and sandstone.

515- 25-Ctgs: Same.

525- 30-Ctgs: Same with very coarse sand. Brown claystone noted.

530- 56-Ctgs: Same.

556- 63-Ctgs: Same. Carbonaceous material noted.

563- 86-Ctgs: Same.

586- 90-Ctgs: Same with fine-grained sand.

590- 97-Ctgs: Same and gray and brown hard sandstone. Asphaltic ? residue noted in sandstone.

597- 604-Ctgs: Fine-grained sand and gray sandy shale.

604- 10-Ctgs: Same with medium-grained sand and sandstone.

610- 15-Ctgs: Brown claystone, gray and brown coarse-grained sandstone.

615- 23-Ctgs: Same with very coarse sand.

623- 29-Ctgs: Same with more brown claystone. Plant frag.

629- 36-Ctgs: Same with gray medium-grained sandstone.

636- 42-Ctgs: Same.

642- 48-Ctgs: Gray medium-grained sandstone. Plant frag.

648- 55-Ctgs: Same and brown claystone. Pyrite noted.

655- 65-Ctgs: Same.

655- 65-Ctgs: Same.

665- 75-Ctgs: Same and dark gray to black micaceous, carbonaceous sandy shale.

675- 81-Ctgs: Same with coal and very carbonaceous shale.

681- 88-Ctgs: Same and light gray fine-grained sandstone.

- 688- 95-Ctgs: Light gray medium-grained sandstone and carbonaceous shale.
695- 700-Ctgs: Same.
700- 06-Ctgs: Same and carbonaceous shale.
706- 11-Ctgs: Light gray fine-grained sand.
711- 18-Ctgs: Same and sandstone.
718- 24-Ctgs: Same.
724- 30-Ctgs: Same and medium-grained sandstone and sandstone.
735- 42-Ctgs: Same. Carbonaceous material.
742- 49-Ctgs: Medium-grained sand and sandstone.
749- 77-Ctgs: Same.
777- 85-Ctgs: Same with asphaltic ? residue.
785- 90-Ctgs: Medium to fine-grained sand.
790- 95-Ctgs: Same with brown claystone.
795- 802-Ctgs: Same and gray micaceous, carbonaceous sandy shale.
802- 12-Ctgs: Same.
812- 18-Ctgs: Dark gray micaceous carbonaceous shale and fine sand.
823- 28-Ctgs: Same.
828- 35-Ctgs: Same and sandy shale.
835- 47-Ctgs: Same.
847- 51-Ctgs: Same and black micaceous, carbonaceous shale and sandy shale.
851- 906-Ctgs: Same.
906- 10-Ctgs: Same.
Arenaceous Forams. ?
910- 14-Ctgs: Same.
Arenaceous Forams. ?
914- 20-Ctgs: Black micaceous sandy shale.
Arenaceous Forams.
920- 25-Ctgs: Same.
925- 29-Ctgs: Black shale with fine mica.
929- 35-Ctgs: Same.
935- 41-Ctgs: Medium to fine-grained sand and sandstone. Black shale.
941- 46-Ctgs: Gray hard fine-grained sandstone with mica, and medium-grained sand. Brown claystone and black shale.
946- 54-Ctgs: Same.
954- 61-Ctgs: Same with coarse-grained sand and sandstone.
961- 75-Ctgs: Same.
975- 84-Ctgs: Same and gravel.
992- 98-Ctgs: Fine-grained sand.
998-1005-Ctgs: Coarse and medium-grained sand.
1005- 10-Ctgs: Same with coarse sandstone and gravel.
1010- 14-Ctgs: Same.
1014- 21-Ctgs: Same with more gravel.
1021- 27-Ctgs: Same. Plant frag. noted.
1027- 35-Ctgs: Same and brown claystone.
1035- 40-Ctgs: Medium to coarse-grained sand. Brown claystone. Pyrite.
1040- 45-Ctgs: Same and dark gray to black micaceous shale.

1045-	51-Ctgs:	Black shale with fine mica. Pyrite.
1051-	56-Ctgs:	Same, fossiliferous.
1056-	60-Ctgs:	Same.
1060-	65-Ctgs:	Same with gray hard fine-grained sandstone and sandy shale and medium-grained sandstone.
1065-	68-Ctgs:	Same.
1068-	71-Ctgs:	Light gray medium to fine-grained sandstone and sand and gray micaceous sandy shale.
1071-	78-Ctgs:	Medium-grained sand and sandstone and sandy micaceous shale and brown claystone.
1078-	82-Ctgs:	Light gray medium to fine-grained sand and sandstone slightly micaceous.
1082-	90-Ctgs:	Light gray medium-grained hard sandstone.
1090-	95-Ctgs:	Light gray medium to fine-grained sandstone and sand.
1095-	99-Ctgs:	Light gray fine-grained sand and hard sandstone.
1099-1108-	Ctgs:	Same.
1108-	18-Ctgs:	Same and medium-grained sandstone. Gray micaceous sandy shale.
1118-	25-Ctgs:	Gray hard fine-grained sandstone with mica.
1125-	31-Ctgs:	Same and sandy micaceous, carbonaceous shale.
1131-	38-Ctgs:	Same with light brown sandstone, slightly calcareous.
1138-	45-Ctgs:	Gray hard sandy shale and micaceous, carbonaceous sandy shale.
1145-	51-Ctgs:	Medium-grained sand and sandstone and micaceous sandy shale.
1151-	55-Ctgs:	Same.
1155-	59-Ctgs:	Medium and fine-grained sand.
1159-	65-Ctgs:	Medium-grained sand and sandstone.
1165-	71-Ctgs:	Medium-grained sand.
1171-	77-Ctgs:	Same.
1177-	84-Ctgs:	Fine-grained sand.
1184-	94-Ctgs:	Light gray and brown medium-grained sandstone and sand.
1194-1201-	Ctgs:	Same.
1201-	07-Ctgs:	Slightly coarse to fine-grained sand and sandstone.
1207-	16-Ctgs:	Gray slightly coarse sand, gray hard fine-grained sandstone and sandy shale with mica.
1216-	22-Ctgs:	Fine to slightly coarse-grained sand.
1222-	35-Ctgs:	Same.
1235-	40-Ctgs:	Medium to fine-grained sand.
1240-	45-Ctgs:	Coarse to fine-grained sand.
1245-	68-Ctgs:	Same.
1268-	70-Ctgs:	Fine and medium-grained sand and sandstone and gray shale frag.
1279-	86-Ctgs:	Same and coarse-grained sand.
1286-	91-Ctgs:	Same with more coarse-grained sand.
1291-	98-Ctgs:	Fine-grained sand with mica.
1304-	09-Ctgs:	Gray sandy shale with fine mica.
1309-	15-Ctgs:	Same and medium-grained sand.

- 1315- 19-Ctgs: Gray fine-grained sandstone and sand.
1319- 28-Ctgs: Same with brown and gray medium-grained sandstone.
1328- 30-Ctgs: Light gray hard medium and fine-grained micaceous sandstone and sandy shale.
1330- 39-Ctgs: Same.
1339- 44-Ctgs: Same and micaceous, carbonaceous sandy shale.
1344- 50-Ctgs: Same with more medium-grained sand and sandstone.
1350- 58-Ctgs: Same.
1358- 65-Ctgs: Same with more micaceous sandy shale.
1365- 76-Ctgs: Same.
1376- 88-Ctgs: Medium-grained sand and sandstone frag. Sandy shale.
1388- 94-Ctgs: Same.
1394-1401-Ctgs: Medium and coarse-grained sand.
1401- 05-Ctgs: Same with fine-grained sand.
1405- 11-Ctgs: Same.
1411- 18-Ctgs: Same and black micaceous sandy shale.
1418- 27-Ctgs: Medium to slightly coarse sand with gray shale frag.
1427- 36-Ctgs: Same.
1436- 41-Ctgs: Medium-grained sand.
1441- 48-Ctgs: Medium to fine-grained sand.
1448- 53-Ctgs: Same.
1453- 58-Ctgs: Same with coarse sand.
1458- 65-Ctgs: Medium to fine-grained sand.
1465- 68-Ctgs: Same.
1468- 80-Ctgs: Medium and coarse-grained sand.
1480- 86-Ctgs: Medium to coarse-grained sand with gravel.
1486-1505-Ctgs: Same.
1505- 09-Ctgs: Same and fine sand.
1509- 15-Ctgs: Medium to coarse sand, **small brown siderite concretions**. Brown claystone.
1515- 20-Ctgs: Black and gray micaceous sandy shale and brown siderite concretions.
1520- 32-Ctgs: Same.
1532- 37-Ctgs: Same with black hard concretions ?
1537- 43-Ctgs: Same.
1543- 50-Ctgs: Same with black hard clay with fine mica. Pyrite.
1550- 57-Ctgs: Black and dark gray micaceous sandy shale.
1557- 63-Ctgs: Medium-grained sand and gray sandy shale. Brown claystone.
1563- 69-Ctgs: Gray micaceous sandy shale.
1569- 75-Ctgs: Dark gray to black micaceous sandy shale. Pyrite.
1575-1604-Ctgs: Same.
1604- 11-Ctgs: Gray fine-grained sandstone and sandy shale. Brown claystone.
1611- 16-Ctgs: Gray hard fine-grained sandstone and dark gray sandy shale.
1616- 22-Ctgs: Same.
1622- 28-Ctgs: Gray hard sandy shale with mica.

- 1628- 37-Ctgs: Gray hard fine-grained sandstone, sand and sandy shale with mica. Brown claystone.
- 1637- 40-Ctgs: Same with more brown claystone.
- 1640- 48-Ctgs: Gray very hard fine-grained sandstone and sandy micaceous shale.
- 1648- 58-Ctgs: Gray to black sandy shale with fine mica.
- 1658- 62-Ctgs: Gray hard sandy shale with fine mica.
- 1662- 70-Ctgs: Same.
- 1670- 79-Ctgs: Same with black sandy micaceous shale.
- 1679- 85-Ctgs: Black hard sandy micaceous shale.
- 1685- 89-Ctgs: Same and gray hard sandy shale. Brown claystone.
- 1689- 95-Ctgs: Light gray fine-grained sandstone and sandy shale and black micaceous sandy shale.
- 1695-1702-Ctgs: Light gray hard fine-grained sandstone and sandy shale with mica.
- 1702- 13-Ctgs: Same and black sandy shale with fine mica.
- 1713- 19-Ctgs: Black micaceous sandy shale.
- 1719- 26-Ctgs: Same.
- 1726- 35-Ctgs: Same.
Crinoid stems noted.
- 1735- 43-Ctgs: Gray to black micaceous sandy shale, slightly fossiliferous.
- 1743- 48-Ctgs: Gray fine-grained sandstone and sandy micaceous shale. Brown claystone.
- 1748- 51-Ctgs: Same.
Crinoid stems noted.
- 1751- 60-Ctgs: Gray to black hard sandy shale with fine mica.
- 1760- 70-Ctgs: Same with more black shale, and brown claystone.
- 1770- 80-Ctgs: Black micaceous hard sandy shale.
- 1780- 88-Ctgs: Same and gray hard sandy shale and sandstone. Brown claystone.
- 1788-1802-Ctgs: Gray hard fine-grained sandstone and sandy shale. Brown claystone.
- 1802- 15-Ctgs: Gray hard fine-grained sandstone and sandy shale with fine mica.
- 1815- 27-Ctgs: Same and black shale. Brown claystone.
Shell frag.
- 1827- 39-Ctgs: Gray hard fine-grained sandstone and sandy shale. Brown impure lime frag., fossiliferous.
- 1839- 46-Ctgs: Same and sandy shale.
- 1846- 53-Ctgs: Gray medium-grained sandstone. Brown sandy lime. Brown claystone.
Crinoid stems.
- 1853- 60-Ctgs: Black micaceous shale and sandy shale. Gray shale with small siderite concretions.
- 1860- 68-Ctgs: Black micaceous shale with coal. Brown claystone. Siderite concretions.
- 1868- 78-Ctgs: Light gray fine-grained sandstone. Brown claystone.
- 1878- 89-Ctgs: Black shale and brown claystone. Gray shale with siderite concretions.

- 1889- 94-Ctgs: Gray hard fine-grained sandstone and micaceous sandy shale.
- 1894-1902-Ctgs: Same with more sandy shale. Brown claystone. Slightly coarse sandstone frag.
- 1902- 09-Ctgs: Gray to black shale and sandy shale. Brown claystone.
- 1909- 17-Ctgs: Black micaceous, carbonaceous and greenish gray shale with small siderite concretions.
- 1917- 28-Ctgs: Medium to slightly coarse sub-angular sand, and sandstone. Fine-grained sand. Gray shale with siderite concretions.
- 1928- 48-Ctgs: Medium to slightly coarse sand.
- 1948- 62-Ctgs: Same.
- 1962- 68-Ctgs: Same and fine sand.
- 1968- 76-Ctgs: Same.
- 1976- 80-Ctgs: Gray hard fine-grained sandstone and sandy shale.
- 1980- 83-Ctgs: Dark gray to black shale and sandy shale. Brown claystone.
Ostracods.
- 1983- 89-Ctgs: Gray hard fine-grained sandstone and sandy shale.
- 1989- 96-Ctgs: Same and brown claystone.
- 2005- 12-Ctgs: Gray sandy shale, brown claystone, dark gray clay with siderite concretions.
- 2012- 19-Ctgs: Same.
- 2019- 26-Ctgs: Same with black shale.
- 2626- 30-Ctgs: Same with pyritized wood.
- 2030- 33-Ctgs: Gray clay with siderite concretions and small siderite concretions abundant. Black carbonaceous shale and carbonaceous material.
- 2033- 36-Ctgs: Same with more siderite concretions.
- 2036- 41-Ctgs: Same with dark gray shale.
- 2041- 47-Ctgs: Gray clay with siderite concretions, dark gray shale and brown claystone.
- 2047- 51-Ctgs: Gray shaly clay, brown claystone.
- 2051- 57-Ctgs: Gray clay and black shale, fine-grained sand and sandstone. Siderite concretions.
- 2057- 61-Ctgs: Dark greenish gray clay.
- 2061- 62-Ctgs: Same with carbonaceous material. Light gray medium-grained sandstone and sand. Siderite concretions.
- 2062- 67-Ctgs: Black carbonaceous shale. Gray clay. Siderite concretions. Light gray medium-grained sandstone.
- 2067- 73-Ctgs: Same with gray sandy shale and frag. of gray lime.
Crinoid stems.
- 2073- 76-Ctgs: Same.
- 2076- 79-Ctgs: Same. Small siderite concretions.
- 2079- 83-Ctgs: Same.
- 2083- 85-Ctgs: Same with more gray clay.
- 2085- 90-Ctgs: Same.
- 2090- 93-Ctgs: Same with **crinoid stems**.
- 2093-2101-Ctgs: Same.

- 2101- 04-Ctgs: Black carbonaceous shale and gray clay with siderite concretions.
 2104- 06-Ctgs: Same.
 2106- 08-Ctgs: Same with brown claystone.
 2108- 11-Ctgs: Same with brown lime.
 2111- 13-Ctgs: Same and gray sandy shale.
 2113- 22-Ctgs: Same.
 2122- 26-Ctgs: Black micaceous, carbonaceous shale and gray clay.
 2126- 30-Ctgs: Same.
 2130- 34-Ctgs: Same with brown claystone.
 2134- 40-Ctgs: Same with brown claystone.
 2140- 45-Ctgs: Gray clay with carbonaceous material. Light gray limestone with **crinoid stems**.

Pennington

- 2145- 50-Ctgs: Gray, green and red clay. Siderite concretions. Lime frag.
 2150- 59-Ctgs: Same.
 2159- 65-Ctgs: Same and sandy shale.
 2165- 69-Ctgs: Same with brown lime and claystone.
 2173- 83-Ctgs: Same.
 2183- 87-Ctgs: Same with more brown claystone.
 2187- 94-Ctgs: Gray limestone with **crinoid stems**. Black shale.
 2194-2202-Ctgs: Same.
 Euphemus sp.
 2202- 10-Ctgs: Brown limestone with **crinoid stems**. Gray clay with siderite concretions.
 2210- 18-Ctgs: Brown and greenish dense limestone. Green clay with siderite concretions.
 2218- 26-Ctgs: Same.
 2226- 35-Ctgs: Dark red and green shale. Gray and green limestone.
 2235- 45-Ctgs: Same.
 2245- 50-Ctgs: Same and light gray limestone.
 2250- 56-Ctgs: Same.
 2256- 64-Ctgs: Same and light gray fine-grained sandstone, part hard.

Amory or Carter Sand

- 2264- 69-Ctgs: Sandstone as in preceding.
 1996-2002-Ctgs: Gray hard fine-grained sandstone and sandy shale, gray clay with siderite concretions.
 2002- 05-Ctgs: Same.
 2269- 74-Ctgs: Gray hard sandstone and dark red and green clay.
 2274- 80-Ctgs: Light greenish gray hard fine-grained sandstone. Dark red and green clay.
 2280- 85-Ctgs: Green and dark red clay and sandstone frag.
 2285- 90-Ctgs: Same.
 2290- 97-Ctgs: Same with medium-grained hard sandstone.
 2297-2310-Ctgs: Same.
 2310- 15-Ctgs: Greenish shale, part with small siderite concretions. Carbonaceous material, and pyrite in shale.
 2315- 21-Ctgs: Same.

- 2321- 30-Ctgs: Medium to slightly coarse sand.
 2330- 34-Ctgs: Same.
 2334- 42-Ctgs: Medium-grained sand.
 2342- 49-Ctgs: Medium to slightly coarse-grained sand.
 2349- 58-Ctgs: Medium and fine-grained sand.
 2358- 63-Ctgs: Light gray hard fine-grained sandstone.
 2363- 64-Ctgs: Same and medium-grained sand. Black shale.
 2364- 68-Ctgs: Gray fine-grained sandstone and sandy micaceous shale.
 2368- 73-Ctgs: Same.
 2373- 78-Ctgs: Same and sand.
 2377- 79-Ctgs: Gray hard fine-grained sandstone and sandy shale. Brown claystone.
 2379- 84-Ctgs: Same and black sandy shale.
 2384- 90-Ctgs: Gray hard fine-grained calcareous closely cemented sandstone and sandy shale.
 2390- 94-Ctgs: Gray hard fine-grained sandstone and dark gray to black sandy shale. Pyrite and brown hard claystone.
 2394- 98-Ctgs: Black shale and sandy shale and brown claystone.
 2393-2406-Ctgs: Black dense shale and sandy shale with fine mica. Brown claystone.
 2406- 12-Ctgs: Same.
 2412- 20-Ctgs: Black dense shale with fine mica. Brown claystone.
 2420- 43-Ctgs: Same.
 2443- 49-Ctgs: Black dense shale, fossiliferous, and brown fossiliferous limestone. **Shell frag.** Pyrite replacement of small **Ceph-
phalopods** and **Gastropods**.
 2449- 55-Ctgs: Black shale and brown limestone.
 2455- 65-Ctgs: Black shale and brown and gray limestone.
 2464- 69-Ctgs: Black shale and brown limestone.
 Crinoid stems.
 2469- 74-Ctgs: Black shale and brown and gray limestone.
 2474- 76-Ctgs: Same with brown cherty limestone.
 Small pelecypods.
 2476- 79-Ctgs: Same and gray limestone.
 2479- 82-Ctgs: Same with more gray limestone.
 2482- 89-Ctgs: Same.
 2489- 94-Ctgs: Same.
 Ostracods.
 2494-2500-Ctgs: Black shale, fossiliferous, and brown limestone.
 2500- 35-Ctgs: Same.
 2535- 45-Ctgs: Brown limestone and shaly lime.
 2545- 54-Ctgs: Same.
 2554- 65-Ctgs: Same with black shale.
 2565- 72-Ctgs: Same.
 2572- 75-Ctgs: Brown limestone and black shale.
 2575-2615-Ctgs: Same.
 2615- 25-Ctgs: Same with more black shale.
 2625- 34-Ctgs: Black shale with brown limestone.
 2635- 58-Ctgs: Same.

- 2658- 66-Ctgs: Black shale.
 2666- 75-Ctgs: Same.
 2675- 84-Ctgs: Same with fine mica.
 2684-2735-Ctgs: Same.
 2737- 49-Ctgs: Same and brown impure lime.
 2749- 94-Ctgs: Same.
 2794-2804-Ctgs: Same. Pyrite.
 2804- 20-Ctgs: Same.
 2820- 27-Ctgs: Black dense shale.
 2827- 35-Ctgs: Same.
 2835- 42-Ctgs: Gray crystalline limestone. Sandy limestone noted.
 2842- 50-Ctgs: Gray fossiliferous limestone, part sandy. Gray shaly lime with **Fenestella Bryozoa**. Crinoid stems.
 2850- 60-Ctgs: Gray medium to fine-grained sandstone, part brown stained. Black oolites. Crinoid stems.

Pethel or Lewis Sand

- 2860- 65-Ctgs: Same with more staining.
 2865- 70-Ctgs: Medium-grained sand and sandstone with slight staining.
 2870- 79-Ctgs: Same and fine-grained sand.

Gap in samples

- 3007- 16-Ctgs: Gray limestone and chert. Black shale from above.

Tuscumbia or Fort Payne

- 3016- 19-Ctgs: Gray and brown limestone with more chert. Pin point staining in chert.
 3019- 23-Ctgs: Light gray chert and gray limestone.
 3023- 28-Ctgs: Brown limestone and chert.

Prob. Fort Payne

- 3028- 34-Ctgs: Brown limestone with chert.
 3034- 42-Ctgs: Same.
 3042- 48-Ctgs: Same with black shale frag.
 3048- 54-Ctgs: Same with green mineral noted. Black shale frag.
 3054- 61-Ctgs: Light gray cherty limestone with **crinoid stems**. Crystalline calcite. Greenish shaly lime with fine pyrite.
 3061- 68-Ctgs: Light gray and greenish cherty limestone with **crinoid stems**. Greenish shaly lime with fine pyrite.
 3068- 76-Ctgs: Light gray limestone and milky chert. Limestone slightly pink tinged.
 3076- 82-Ctgs: Gray shaly lime and pink tinged lime with abundant **crinoid stems**.
 3082- 89-Ctgs: Pink and gray lime with green shale. Milky chert.
 3089- 95-Ctgs: Milky chert and brownish lime.
 3095-3100-Ctgs: Same.
 3100- 08-Ctgs: Same and black shale frag.
 3108- 16-Ctgs: Same.

- 3116- 25-Ctgs: Gray to brownish cherty limestone with fine green mineral.

Possible Devonian

- 3125- 34-Ctgs: Same.
3134- 41-Ctgs: Light gray limestone with fine green mineral, and chert.
3141- 48-Ctgs: Same with white chert and greenish shale very glauconitic. Brownish glau. lime.
3148- 56-Ctgs: Light gray cherty limestone.
3156- 62-Ctgs: Same.
3162- 66-Ctgs: Same with fragments of black shale.
3166- 70-Ctgs: Gray very cherty limestone.
3170- 90-Ctgs: Same.
3190- 94-Ctgs: Gray chert and small amount of limestone.
3200- 06-Ctgs: Same.
3206- 11-Ctgs: Same and brownish chert.
3211- 24-Ctgs: Same.
3224- 29-Ctgs: Smoky chert and gray lime.
3229- 38-Ctgs: Same.
3238- 43-Ctgs: Same and brown chert.
3243- 47-Ctgs: Gray lime and chert.
3247- 51-Ctgs: Gray and brown cherty lime with glauconite.
3251- 57-Ctgs: Same with milky and brown chert.
3257- 64-Ctgs: Brown and gray limestone and chert.
3264- 68-Ctgs: Same.
3268- 73-Ctgs: Gray and brown chert.
3273- 78-Ctgs: Same.
3278- 85-Ctgs: Brown and gray chert and gray lime.
3285- 86-Ctgs: Gray chert and lime.
3286- 90-Ctgs: Same.
3290- 94-Ctgs: Same and brown chert.
3294- 99-Ctgs: Gray and brown cherty lime with glauconite.
3299-3303-Ctgs: Gray and brown chert.
3303- 07-Ctgs: Same and glauconitic lime.
3307- 15-Ctgs: Bluish and smoky chert and light gray crystalline limestone with fine glauconite.
3315- 20-Ctgs: Light gray limestone. Milky and bluish chert.
3320- 25-Ctgs: Same.
3325- 31-Ctgs: Light gray crystalline limestone and milky chert.
3331- 40-Ctgs: Light gray crystalline limestone.
3340- 45-Ctgs: Light gray cherty limestone.
3345- 51-Ctgs: Same.
3351- 58-Ctgs: Same with fine green mineral.
3358- 63-Ctgs: Same with increasing amount of chert.
3363- 69-Ctgs: Light gray cherty limestone.
3369-3433-Ctgs: Same.
3433- 39-Ctgs: Chert and light gray limestone.
3439- 59-Ctgs: Same.
3459- 63-Ctgs: Light gray to slightly bluish chert and light gray limestone.

- 3463- 69-Ctgs: Same and buff-colored chert.
 3469- 76-Ctgs: Same.
 3476- 81-Ctgs: Same and smoky chert.
 3481- 86-Ctgs: Gray chert. Small amount of gray limestone.
 3486- 92-Ctgs: Light brownish chert.
 3492- 98-Ctgs: Same with gray chert.
 3496-3503-Ctgs: Same and bluish chert.
 3503- 14-Ctgs: Same.
 3514- 21-Ctgs: Gray limestone and chert.
 3521- 29-Ctgs: Light to dark gray limestone and shaly lime.

Possible Silurian

- 3529- 35-Ctgs: Medium gray dense limestone.
 3535- 44-Ctgs: Medium to dark gray lime and shaly lime.
 3544- 80-Ctgs: Same.
 3580- 90-Ctgs: Dark gray to slightly greenish shale and lime.
 3590-3612-Ctgs: Same.
 3612- 19-Ctgs: Same becoming more shaly.
 3619- 50-Ctgs: Same.
 3650- 63-Ctgs: Light gray and pink lime, dark reddish brown lime and shale. Light greenish lime.
 Crinoid stems.

Silurian

- 3663- 75-Ctgs: Same with more light greenish lime.
 3675- 84-Ctgs: Dark red lime and shale and pink lime.
 3684- 93-Ctgs: Same and red lime with a yellowish tinge, coarsely crystalline.
 Crinoid stems.
 3693- 99-Ctgs: Pink and red lime, coarsely crystalline.
 3699-3705-Ctgs: Pink crystalline limestone.
 3705- 23-Ctgs: Same.
 3723- 33-Ctgs: Pink lime, dark purple shale, and green sandy lime.
 3733- 43-Ctgs: Dark gray sandy lime. Phosphatic inclusions ? Pyrite.

Ordovician

- 3743- 48-Ctgs: Same and brown dense limestone.
 3748- 58-Ctgs: Same.
 3758- 62-Ctgs: Light and dark gray dense limestone.
 3762- 68-Ctgs: Gray and brown dense limestone.
 3768- 75-Ctgs: Brown dense limestone.
 3775-3801-Ctgs: Same.
 3801- 09-Ctgs: Same.
 Brachiopod impressions.
 3809- 16-Ctgs: Same with chert.
 3816- 25-Ctgs: Same.
 3825- 33-Ctgs: Brown dense limestone.
 3833- 41-Ctgs: Brown dense limestone.
 3841- 50-Ctgs: Gray to greenish limestone.
 3850- 55-Ctgs: Greenish gray dense limestone.
 3855- 64-Ctgs: Same.

- 3864- 75-Ctgs: Same and light brown limestone.
3875- 85-Ctgs: Light greenish gray dense limestone.
3885- 95-Ctgs: Greenish gray dense limestone.
3895-3907-Ctgs: Same.
3907- 19-Ctgs: Brownish gray dense limestone.
3919- 28-Ctgs: Dark gray and brownish gray dense limestone.
3928- 36-Ctgs: Brownish gray dense limestone.
3936- 46-Ctgs: Light gray and greenish gray dense limestone.
3946- 57-Ctgs: Light gray dense limestone.
3957- 64-Ctgs: Light gray finely granular limestone.
3964- 69-Ctgs: Light gray dense limestone.
3969- 78-Ctgs: Light gray dolomite.
3978- 88-Ctgs: Same.
3988- 95-Ctgs: Same and limestone.
3995-4012-Ctgs: Same.
4012- 22-Ctgs: Light gray dolomite and small amount of greenish shale.
4022- 29-Ctgs: Same.
4029- 36-Ctgs: Same and light gray dense limestone. Rounded sand grains noted.
4036- 40-Ctgs: Light gray dolomite.
4048- 59-Ctgs: Same.
4059- 70-Ctgs: Same and light gray dense limestone.
4069- 79-Ctgs: Same with buff-colored dolomite. Green shale frag.
4079- 89-Ctgs: Light gray dolomite with occasional rounded frosted sand grains.
4089-4105-Ctgs: Same.
4105- 12-Ctgs: Light bluish gray dolomite with greenish shale.
4112- 20-Ctgs: Same.
4120- 29-Ctgs: Light gray dolomite and buff-colored dense limestone.
4129- 39-Ctgs: Light bluish dolomite and green shale.
4139- 47-Ctgs: Same and brown dense limestone.
4147- 58-Ctgs: Light bluish dolomite and greenish shale.
4158- 69-Ctgs: Same and light gray dense limestone.
4169- 80-Ctgs: Light gray dolomite; greenish shale.
4180- 93-Ctgs: Same and limestone.
4193-4203-Ctgs: Light gray dolomite.
4203- 13-Ctgs: Same.
4213- 25-Ctgs: Gray and brownish finely granular limestone.
4225- 36-Ctgs: Gray dolomite and limestone.
4236- 44-Ctgs: Same and buff-colored dolomite.
4244- 50-Ctgs: Buff-colored dolomite.
4250- 53-Ctgs: Same.
4253- 58-Ctgs: Brown and light gray to buff-colored dense limestone.
4258- 62-Ctgs: Light gray cherty dolomite.
4262- 70-Ctgs: Light gray dolomite.
4270- 80-Ctgs: Same.
4280- 90-Ctgs: Same and brown dolomite.
4290-4300-Ctgs: Light brown dolomite.
4300- 05-Ctgs: Same.

4305-	13-Ctgs:	Brown and buff-colored limestone.
4313-	22-Ctgs:	Buff-colored dolomite.
4322-	32-Ctgs:	Light gray dolomite and limestone.
4332-	42-Ctgs:	Same.
4342-	51-Ctgs:	Medium gray dolomite and brown dense limestone.
4351-	63-Ctgs:	Same.
4363-	73-Ctgs:	Gray dolomite and dense limestone.
4373-	80-Ctgs:	Gray dolomite and greenish shale.
4380-	86-Ctgs:	Brown limestone and gray dolomite. Rounded sand grains.
4386-	90-Ctgs:	Gray limestone. Rounded sand grains.
4390-4400-	Ctgs:	Light bluish gray limestone.
4400-	10-Ctgs:	Light gray limestone with inclusions of rounded sand grains.
4410-	17-Ctgs:	Buff-colored dolomite. Rounded sand grains.
4417-	25-Ctgs:	Light gray limestone and dolomite.

Summary

Tuscaloosa	to.....	412-15'
Pennsylvanian	412-15'.....to.....	2140-45'
Top of Pennington & Bangor		2140-45'
In Carter Sand	at.....	2330'
Bethel or Lewis sand	at.....	2845'
In Tuscumbia	at.....	3007'
	top by Schlumberger at.....	2977'
Possible Devonian	at.....	3125'
Silurian	at.....	3529'
Ordovician	at.....	3743-48'

LAUDERDALE COUNTY

George F. Mercer, Trustee
Mrs. Neil Patterson #1 (Citizens Oil Well)
NE/4 NW/4 SE/4
Sec. 8—T 2 S—R 12 W
Lauderdale County, Ala.

Elev. 585 ft.
Began June 18, 1941
Com. October 18, 1941

85- 90-Ctgs: Brown limestone and brown and bluish chert.

Fort Payne

122- 27-Ctgs: Dark grayish brown limestone and brown chert.
130- 35-Ctgs: Dark brown limestone.
145- 48-Ctgs: Dark grayish brown limestone, gray limestone; brown chert noted.

Fort Payne

176- 80-Ctgs: Same.

Fort Payne**Chattanooga Shale Interval ?**

195- 98-Ctgs: Greenish gray limestone with **crinoid stems**; frag. of brown glauconitic lime, and quartzitic sandstone. Brownish black shale—Chattanooga from above ?
Ostracods.
Brachiopods.

200- 06-Ctgs: Same with grayish green shaly lime.

Silurian

215- 22-Ctgs: Greenish gray limestone and shaly lime. Pyrite noted. Crinoid stems.
225- 28-Ctgs: Light green lime and shaly lime and light gray limestone with pyrite.
235- 40-Ctgs: Same. Crinoid stems.
245- 50-Ctgs: Same.
255- 60-Ctgs: Greenish gray lime and shaly lime. Crinoid stems abundant. Ostracods.
260- 70-Ctgs: Same as preceding.
275- 80-Ctgs: Greenish gray limestone and shale. Crinoid stems and Ostracods.
285- 90-Ctgs: Same.
295- 300-Ctgs: Same and pink and reddish tinged limestone.

Silurian

300- 03-Ctgs: Same and dark red limestone. Ostracods. Pink crinoid stems.

- 300- 10-Ctgs: Dark red limestone and green and red and green limestone.
 320- 30-Ctgs: Greenish gray and pink limestone with **crinoid stems**.
 330- 40-Ctgs: Same.
 340- 50-Ctgs: Gray and pink limestone carrying **crinoid stems**.
 355- 60-Ctgs: Same.
 365-Ctgs: Same and green lime.
 365- 70-Ctgs: Green, gray and pink and dark red fossiliferous limestone.
 375- 80-Ctgs: Green and gray and dark red limestone.
 380- 90-Ctgs: Same, part carrying glauconite.
 390- 400-Ctgs: Pink and gray crystalline limestone with some glauconite. Crinoid stems.
 400- 10-Ctgs: Dark greenish gray granular limestone with phosphatic inclusions; drab-colored to brown limestone with phosphatic inclusions.

Ordovician

- 410- 20-Ctgs: Gray limestone and black phosphatic lime.
 Coral frag. noted.

Ordovician

- 420- 30-Ctgs: Gray limestone with black inclusions. Dark gray shaly lime.
 435- 40-Ctgs: Dark greenish gray granular limestone with phosphatic material. Light gray fossiliferous limestone.
 440- 50-Ctgs: Same and shaly lime.
 450- 60-Ctgs: Same.
 Brachiopod frag. abundant.
 460- 70-Ctgs: Same and dark gray shaly lime.
 470- 80-Ctgs: Same and gray limestone with dark inclusions.
 485- 90-Ctgs: Same with phosphatic inclusions.
 490- 500-Ctgs: Same.
 500- 10-Ctgs: Dark greenish gray granular limestone and shaly lime, part with phosphatic inclusions.
 Coral frag.
 510- 20-Ctgs: Same and dark gray to black crystalline limestone.
 520- 30-Ctgs: Gray to black and brownish limestone.
 530- 40-Ctgs: Same and shaly lime noted.
 540- 80-Ctgs: Same.
 580- 90-Ctgs: Same and frag. of limestone with phosphatic material.
 590- 600-Ctgs: Gray to black limestone with phosphatic inclusions.
 600- 10-Ctgs: Gray to black limestone, part carrying black inclusions.
 610- 30-Ctgs: Same.
 540- 50-Ctgs: Same and black shaly lime.
 650- 60-Ctgs: Gray to black limestone with black inclusions.
 660- 70-Ctgs: Drab-colored crystalline limestone.
 670- 80-Ctgs: Drab-colored to brown crystalline limestone.
 680- 90-Ctgs: Grayish brown crystalline limestone, fossiliferous.
 690- 700-Ctgs: Drab-colored, light gray and brown crystalline and dense limestone.
 700- 10-Ctgs: Drab-colored dense and crystalline limestone.

- 720- 30-Ctgs: Same and brown dense and granular limestone.
730- 40-Ctgs: Drab-colored to brown limestone and chert.
740- 50-Ctgs: Same and crystalline limestone.
750- 60-Ctgs: White to cream-colored limestone, having an appearance of being reworked.
Worm crinoid stems noted.
Ostracods.
760- 70-Ctgs: Medium brown dense limestone with chert noted.
770- 80-Ctgs: Grayish brown dense limestone.
780- 90-Ctgs: Light brown and grayish dense limestone.
790- 800-Ctgs: Same and brown granular limestone frag.
800- 10-Ctgs: Drab-colored and light gray dense and crystalline limestone.
810- 20-Ctgs: Brown granular limestone.
820- 30-Ctgs: Light gray, light brown and greenish gray crystalline limestone.
830- 40-Ctgs: White to cream-colored crystalline limestone.
Crinoid stems.
Coral frag.
840- 50-Ctgs: Light brown and grayish brown dense limestone.
850- 60-Ctgs: Light gray and brown and greenish gray crystalline limestone.
Crenulated crinoid stem noted.
860- 70-Ctgs: Grayish brown crystalline limestone.
870- 80-Ctgs: Brown and grayish brown dense limestone.
Sample #1
870- 80-Ctgs: Light brown coarsely crystalline limestone.
Sample #2
880- 90-Ctgs: Light brown crystalline limestone.
Bryozoa.
Ostracods.
Coral frag.
890- 900-Ctgs: Same.
Small brachiopod noted.
900- 10-Ctgs: Light brown crystalline limestone.
920- 30-Ctgs: Grayish brown dense limestone and greenish gray granular limestone.
930- 40-Ctgs: Greenish gray dense limestone, brown crystalline and granular limestone.
940- 50-Ctgs: Brown crystalline and dense limestone.
950- 60-Ctgs: Same.
960- 70-Ctgs: Grayish brown dense limestone, fossiliferous.
980- 90-Ctgs: Same.
990-1000-Ctgs: Grayish brown dense limestone and dark greenish gray granular limestone.
1000- 10-Ctgs: Same.
1010- 20-Ctgs: Grayish brown dense limestone.
1020- 40-Ctgs: Same.
1040- 50-Ctgs: Brown dense limestone.

1050-	60-Ctgs:	Same.
1060-	70-Ctgs:	Grayish brown dense limestone.
1070-	80-Ctgs:	Grayish brown dense limestone.
1080-	90-Ctgs:	Same.
1090-1100-	Ctgs:	Same and brown limestone.
1100-	10-Ctgs:	Same.
1110-	20-Ctgs:	Brown and grayish brown dense limestone.
1120-	30-Ctgs:	Same and greenish gray dense limestone.
1130-	40-Ctgs:	Same.
1150-	60-Ctgs:	Same.
1160-	70-Ctgs:	Grayish brown finely crystalline and dense limestone.
1170-	80-Ctgs:	Same and brown limestone.
1180-	90-Ctgs:	Brown dense limestone and grayish brown limestone.
1190-1200-	Ctgs:	Drab-colored dense limestone; greenish gray granular limestone.

Ordovician

1210-	20-Ctgs:	Drab-colored dense limestone. Greenish gray finely granular limestone.
1220-	30-Ctgs:	Same. Ostracods noted.
1230-	60-Ctgs:	Same.
1260-	70-Ctgs:	Light greenish gray finely granular limestone and light brown dense limestone.
1270-	80-Ctgs:	Light brown dense limestone and finely granular limestone; light greenish gray finely granular limestone.
1280-	90-Ctgs:	Light greenish gray magnesium limestone.
1290-1300-	Ctgs:	Same and light brown dense limestone.
1300-	10-Ctgs:	Light greenish gray and light brown magnesium limestone, part granular.
1310-	20-Ctgs:	Greenish gray magnesium limestone.
1320-	30-Ctgs:	Same.
1330-	40-Ctgs:	Same and green shale frag. noted.
1340-	50-Ctgs:	Same, part carrying rounded frosted sand grains. Pyrite present.
1350-	60-Ctgs:	Same with light brown magnesium limestone and green shale.
1360-	70-Ctgs:	Light gray magnesium limestone.
1370-	80-Ctgs:	Drab-colored magnesium limestone.
1380-	90-Ctgs:	Light brown magnesium limestone. Occasional rounded frosted quartz grains; frag. of light green clay noted.
1390-1400-	Ctgs:	Light brown magnesium limestone and greenish gray magnesium limestone.
1400-	10-Ctgs:	Same and dolomite.
1410-	20-Ctgs:	Same.
1420-	30-Ctgs:	Light gray dolomite.
1430-	35-Ctgs:	Light gray dolomite. Occasional rounded quartz grains.
1430-	40-Ctgs:	Same.
1440-	50-Ctgs:	Light brown magnesium limestone.

- 1450- 60-Ctgs: Gray and brown magnesium limestone carrying rounded frosted quartz grains.
- 1460- 70-Ctgs: Light brown magnesium limestone with occasional rounded frosted quartz grains.
- 1470- 80-Ctgs: Light brown magnesium limestone.
- 1480- 90-Ctgs: Light brown magnesium limestone carrying rounded quartz grains.
- 1490-1500-Ctgs: Brown coarsely granular magnesium limestone, chert, drab-colored dense limestone.
- 1500- 10-Ctgs: Light brown coarsely granular magnesium limestone.
- 1505-Ctgs: Light brown and gray magnesium limestone with rounded frosted quartz grains.
- 1510- 20-Ctgs: Light brown and gray magnesium limestone.
- 1520- 30-Ctgs: Gray and greenish gray and brown magnesium limestone, rounded frosted quartz grains.
- 1530- 40-Ctgs: Light brown and gray magnesium limestone, rounded frosted quartz grains.
- 1540- 50-Ctgs: Brown and gray magnesium limestone; green shale frag.
- 1550- 60-Ctgs: Brown and gray magnesium limestone.
- 1560- 70-Ctgs: Light gray and brown dolomite.

Knox

- 1570-1610-Ctgs: Same.
- 1610- 16-Ctgs: Light brown dolomite.
- 1620- 25-Ctgs: Light gray dolomite and light brown dolomitic limestone.
- 1630- 35-Ctgs: Brown dolomite.
- 1630- 40-Ctgs: Light gray granular limestone.
- 1640- 50-Ctgs: Brown dolomite.
- 1650- 60-Ctgs: Gray and brown cherty limestone.
- 1660- 70-Ctgs: Same.
- 1670- 80-Ctgs: Gray and brown cherty limestone.
- 1680- 90-Ctgs: Same.
- 1690-1700-Ctgs: Brown dolomitic limestone. A small amount of quartz grains noted.
- 1700- 10-Ctgs: Light gray cherty limestone.
- 1710- 20-Ctgs: Brown and gray cherty limestone, frag. of soft gray shale noted.
- 1720- 30-Ctgs: Light gray cherty limestone, brown dolomitic limestone.
- 1740- 50-Ctgs: Light gray and brown cherty limestone; occasional rounded frosted sand grains.
- 1750- 70-Ctgs: Same.
- 1770- 75-Ctgs: Light brown crystalline and dense dolomite and cherty limestone.
- 1770- 80-Ctgs: Light brown dolomitic limestone.
- 1780- 90-Ctgs: Same.
- 1790- 95-Ctgs: Brown dolomite.
- 1790-1800-Ctgs: Light brownish and brown dolomite.
- 1800- 05-Ctgs: Light gray and brown cherty limestone with occasional rounded frosted quartz grains.

1805-	10-Ctgs:	Light gray-and-brown limestone and chert.
1810-	15-Ctgs:	Brown dolomite, chert from above ?
1815-	20-Ctgs:	Brown and gray cherty limestone and dolomite.
1820-	25-Ctgs:	Light brown dolomite and cherty limestone.
1825-	30-Ctgs:	Light gray dolomite, rounded frosted quartz grains constituting about one-third of the sample.
1830-	35-Ctgs:	Light brown dolomite; rounded quartz grains.
1835-	40-Ctgs:	Brown dolomite.
1840-	45-Ctgs:	Same and light brown dense limestone.
1845-	50-Ctgs:	Same.
1850-	55-Ctgs:	Brown dolomite ? and white cherty limestone.
1855-	65-Ctgs:	Same.
1865-	70-Ctgs:	Brown and gray dolomite, gray bentonitic ? clay frag.
1870-	80-Ctgs:	White cherty limestone, brown dolomite.
1880-	90-Ctgs:	White and grayish dolomite.
1890-1900-	Ctgs:	Same.
1900-	10-Ctgs:	Light brown and grayish dolomite ? and cherty limestone.
1910-	20-Ctgs:	Same.
1920-	30-Ctgs:	Light brown dolomite ?
1930-	40-Ctgs:	White chert and cherty limestone, brown and gray dolomite ? with occasional rounded quartz grains.
1940-	50-Ctgs:	Brown dolomite; smoky and white chert.
1950-	60-Ctgs:	Light brown dolomite and smoky chert.
1960-	80-Ctgs:	Same and white chert.
1980-	90-Ctgs:	Light brown dolomite or magnesium limestone, light gray dolomite with occasional rounded quartz grains; white chert.
1990-	95-Ctgs:	Same with more rounded frosted quartz grains.
1995-2010-	Ctgs:	Light brown and gray dolomite.

Summary

Fort Payne	85'	to	180'
Gap in samples			
Silurian	195'	to	400'
Ordovician	400'	to	1560'
Knox	1560'	to	2010'

B. L. Fillingame

Mecke #1

SE/4 of SE/4

Sec. 20—T 1 S—R 10 W

Lauderdale County, Ala.

Elev. 540' Alt.

Began October 28, 1941

Completed January 7, 1942

- 18- 21-Ctgs: Gray hard sandstone with small black inclusions, phosphatic ? black shale. Conodonts noted. Frag. of Ft. Payne chert.

Chattanooga

- 31- 41-Ctgs: Black shale; brown closely cemented sandstone and sandy shale. Light green clay noted. Pyrite.
45- 48-Ctgs: Black shale with spores; gray hard closely cemented sandstone.
48- 53-Ctgs: Same.
53- 58-Ctgs: Black shale with spores; sandy shale and gray closely cemented sandstone.
58- 60-Ctgs: Dark gray to black sandy shale; gray hard fine-grained sandstone, with pyrite.
60- 66-Ctgs: Black shale with spores; gray hard closely cemented sandstone. Pyrite.

Chattanooga

- 66- 69-Ctgs: Green limestone with small pyrite inclusions, part slightly pink-tinged.
Crinoid stems.
Small brachiopod.

Silurian

- 69- 71-Ctgs: Greenish gray limestone and pink tinged limestone. Pyrite.
Crinoid stems.
71- 73-Ctgs: Same.
73- 76-Ctgs: Green limestone and shale, part slightly pink-tinged.
Crinoid stems.
76- 80-Ctgs: Greenish gray limestone, pink-tinged.
Crinoid stems.
80- 83-Ctgs: Same and reddish brown limestone and shale.
83- 88-Ctgs: Pink and reddish-tinged limestone.
88- 90-Ctgs: Same and gray limestone.
90- 105-Ctgs: Same.
125- 41-Ctgs: Same and dark red shale.
141- 55-Ctgs: Same.
151- 53-Ctgs: Yellowish green to gray sandy limestone, fossiliferous, with small black inclusions noted.
Fernvale.

Ordovician

- 153- 56-Ctgs: Medium to dark gray sandy limestone with black and brown phosphatic inclusions and pyrite, fossiliferous; rounded quartz grains noted.
Brachiopod frag.
- 156- 57-Ctgs: Same slightly greenish; part yellowish.
- 156- 57-Ctgs: Same slightly greenish; part yellowish.
- 169- 82-Ctgs: Same.
- 182- 85-Ctgs: Gray and black limestone, with brown phosphatic inclusions.
- 185- 88-Ctgs: Gray limestone with phosphatic inclusions and gray crystalline limestone.
Coral frag. noted.
Bryozoa.
- 188- 93-Ctgs: Light gray coarsely crystalline limestone with small black phosphatic inclusions.
- Ordovician**
- 193- 95-Ctgs: Same, fossiliferous.
Brachiopod frag. abundant.
- 195- 99-Ctgs: Same.
Coral Bryozoa.
- 199- 202-Ctgs: Same with abundant **shell** frag.
Brachiopods frag.
- 202- 05-Ctgs: Gray limestone, and shaly lime with black phosphatic inclusions, fossiliferous.
Corals noted.
- 205- 08-Ctgs: Gray limestone with black phosphatic inclusions, fossiliferous.
- 208- 11-Ctgs: Same.
- 211- 14-Ctgs: Same.
- 214- 17-Ctgs: Same, and dark gray shaly lime.
Coral ? frag.
- 217- 24-Ctgs: Same.
Crinoid stems.
Coral frag.
- 224- 28-Ctgs: Light gray crystalline limestone with small amount of black phosphatic inclusions.
- 228- 32-Ctgs: Same, and black shaly lime with black phosphatic inclusions, fossiliferous.
Coral frag.
- 282- 93-Ctgs: Light gray crystalline limestone, fossiliferous; dark gray limestone with phosphatic inclusions.
Coral frag.
- 293- 301-Ctgs: Same and black shaly lime.
Brachiopod noted.
Shell frag. and impressions.
- 301- 07-Ctgs: Same.
- 307- 41-Ctgs: Light gray limestone with small black inclusions and gray granular and crystalline limestone.

- 341- 50-Ctgs: Light gray crystalline limestone, fossiliferous dark gray granular limestone with phosphatic inclusions.
 350- 55-Ctgs: Same, fossiliferous.
 355- 58-Ctgs: Gray limestone with black phosphatic inclusions fossiliferous.
 358- 66-Ctgs: Gray limestone, part with black phosphatic inclusions and part granular.

Summary

Chattanooga	18'	to	66'
Silurian	66'	to	151'
Ordovician	151'	to	366' last sample

B. L. Fillingame

Mecke #2

SE/4 of SW/4 of SE/4

Sec. 21—T 1 S—R 10 W

Lauderdale County, Ala.

Elev. 525 ft. Alt.

Completed April 15, 1942

- 20- 25-Ctgs: Greenish gray and pink limestone, fossiliferous with pyrite.
 Ostracods.
 Crinoid stems.

Silurian

- 25- 30-Ctgs: Same.
 30- 35-Ctgs: Pink and dark red limestone and shale. Green inclusions noted. Yellowish green limestone.
 Ostracods.
 Crinoid stems.

Silurian

- 35- 40-Ctgs: Gray sandy limestone with small black inclusions, fossiliferous.

Ordovician

- 40- 45-Ctgs: Gray sandy limestone. Small black inclusions.
 45- 50-Ctgs: Same.
 50- 55-Ctgs: Gray sandy limestone with small black inclusions. Rounded sand grains noted.
 55- 60-Ctgs: Same.
 60- 65-Ctgs: Same with black and brown rounded phosphatic inclusions and pyrite.
 65- 70-Ctgs: Yellowish and gray coarsely crystalline limestone with phosphatic concretions.
 70- 75-Ctgs: Gray coarsely crystalline limestone with black phosphatic inclusions, fossiliferous. **Brachiopod frag.** **Bryozoa.** Small **gastropod** replaced by phosphatic material and pyrite.

- 75- 80-Ctgs: Gray limestone with black phosphatic inclusions.
Brachiopod frag.
Bryozoa.
- 80- 85-Ctgs: Gray limestone with black phosphatic inclusions, fossiliferous.
Brachiopod frag. abundant.
Coral ? frag.
- 85- 90-Ctgs: Same.
Coral frag.
- 90- 95-Ctgs: Gray phosphatic limestone, fossiliferous.
Coral frag.
Small brachiopod.
- 95- 100-Ctgs: Same.
- 100- 05-Ctgs: Gray crystalline limestone, fossiliferous with black phosphatic inclusions.
Brachiopod.
- 105- 10-Ctgs: Same.
- 110- 15-Ctgs: Same, very fossiliferous.
Coral frag.
- 115- 20-Ctgs: Same and gray granular or sandy limestone, fossiliferous.
- 120- 25-Ctgs: Same with gray granular or sandy limestone, phosphatic.
- 125- 30-Ctgs: Same.
- 130- 35-Ctgs: Same.
Shell frag.
- 135- 45-Ctgs: Same.
- 145- 50-Ctgs: Yellowish fossiliferous limestone and gray phosphatic limestone.
Brachiopod from above.
- 150- 55-Ctgs: Same.
- 155- 60-Ctgs: Yellowish crystalline limestone, very fossiliferous. Phosphatic material.
Brachiopod and coral frag.
- 160- 65-Ctgs: Gray to black limestone with black phosphatic inclusions.
- 165- 70-Ctgs: Same and shale.
- 170- 75-Ctgs: Same with brownish gray limestone, fossiliferous.
- 175- 80-Ctgs: Gray crystalline, fossiliferous limestone with black inclusions; gray to black shale with phosphatic inclusions.
- 180- 85-Ctgs: Same.
Bryozoa.
- 185- 200-Ctgs: Same.
- 200- 05-Ctgs: Dark gray granular and crystalline limestone and brown crystalline limestone.
- 205- 10-Ctgs: Gray granular limestone with phosphatic inclusions, fossiliferous.
- 210- 15-Ctgs: Same.
- 215- 20-Ctgs: Gray crystalline, fossiliferous limestone with phosphatic inclusions.

- 220- 25-Ctgs: Gray fossiliferous limestone with phosphatic inclusions.
Corals.
Brachiopod frag.
- 225- 35-Ctgs: Same.
- 235- 40-Ctgs: Same, with dark gray shaly lime.
- 240- 45-Ctgs: Brown crystalline limestone, fossiliferous; dark gray shaly limestone.
- 245- 65-Ctgs: Same.
- 265- 70-Ctgs: Same, with light gray limestone. Part of limestone with considerable phosphatic material.
- 270- 75-Ctgs: Gray to brown crystalline very fossiliferous limestone; gray shaly lime.
- 280- 85-Ctgs: Same, fossiliferous.
- 285- 335-Ctgs: Same.
- 335- 40-Ctgs: Drab-colored crystalline and dense limestone and brown granular limestone.
Brachiopod impressions noted.
- 340- 45-Ctgs: Brown granular and lithographic limestone, fossiliferous.
- 345- 50-Ctgs: Brown granular and lithographic limestone, slightly fossiliferous.
- 350- 55-Ctgs: Same.
- 355- 60-Ctgs: Brown granular and crystalline limestone.
- 360- 65-Ctgs: Brown crystalline and dense limestone.
- 365- 70-Ctgs: Brown crystalline limestone.
- 370- 75-Ctgs: Same.
- 375- 80-Ctgs: Brown crystalline and granular limestone.
- 380- 85-Ctgs: Same.
- 385- 90-Ctgs: Same and gray lithographic limestone.
Ostracods noted.
- 390- 95-Ctgs: Gray dense limestone, brown coarsely crystalline and slightly oolitic limestone, fossiliferous.
- 395- 400-Ctgs: Brown dense limestone.
- 400- 05-Ctgs: Drab-colored and brown finely granular limestone. Chert noted.
- 405- 10-Ctgs: Same.
- 410- 15-Ctgs: Same, fossiliferous.
- 415- 20-Ctgs: Same with bluish chert.
- 420- 30-Ctgs: Same.
- 430- 35-Ctgs: Same, slightly oolitic.
- 435- 40-Ctgs: Same.
- 440- 45-Ctgs: Brown and drab-colored dense and slightly granular limestone, slightly fossiliferous.
- 445- 50-Ctgs: Brown dense limestone.
- 450- 55-Ctgs: Brown dense and granular limestone, slightly fossiliferous and cherty.
- 455- 60-Ctgs: Same and light to dark brown chert.
Brachiopods and Ostracods noted.
- 460- 65-Ctgs: Brown dense and granular limestone.

- 465- 70-Ctgs: Same.
Ostracods noted.
- 470- 75-Ctgs: Same and brown chert.
- 475- 80-Ctgs: Brown finely granular and dense limestone.
- 480- 85-Ctgs: Same.
- 490- 95-Ctgs: Brown crystalline and granular limestone; crystalline calcite.
- 495- 500-Ctgs: Same and dense limestone.
Coral frag. noted.
- 500- 05-Ctgs: Same.
- 505- 10-Ctgs: Light brown crystalline limestone, fossiliferous.
Coral and Bryozoa frag.
- 510- 15-Ctgs: Gray and brown coarsely crystalline limestone.
Bryozoa noted.
- 515- 30-Ctgs: Same.
- 530- 35-Ctgs: Same.
Ostracods.
- 535- 40-Ctgs: Same.
- 540- 45-Ctgs: Brown crystalline and granular limestone; greenish shale frag. noted.
- 545- 50-Ctgs: Same.
- 550- 55-Ctgs: Same and greenish gran. limestone.
- 555- 60-Ctgs: Same with dense limestone and dark greenish gray shale.
- 560- 65-Ctgs: Brown crystalline limestone.
- 565- 70-Ctgs: Same and granular limestone.
- 570- 75-Ctgs: Brown dense and granular limestone.
- 575- 80-Ctgs: Brown dense and granular limestone.
- 580- 85-Ctgs: Brown dense limestone and dark greenish gray dense limestone.
- 585- 90-Ctgs: Same and crystalline limestone.
- 590- 95-Ctgs: Brown dense and crystalline limestone.
- 595- 600-Ctgs: Same.
- 600- 05-Ctgs: Brown crystalline and dense limestone.
- 605- 10-Ctgs: Drab-colored dense and brown granular limestone.
- 610- 15-Ctgs: Same.
- 615- 20-Ctgs: Brown dense and granular limestone.
- 620- 25-Ctgs: Brown and dark greenish gray dense and granular limestone, fossilif.
Brachiopod impressions.
- 625- 30-Ctgs: Same.
- 635- 40-Ctgs: Brown dense and granular limestone.
- 640- 45-Ctgs: Same, fossiliferous.
- 645- 50-Ctgs: Brown and greenish gray dense and granular limestone.
- 650- 55-Ctgs: Same.
- 660- 65-Ctgs: Same and granular limestone.
- 665- 70-Ctgs: Brown dense limestone.
- 675- 80-Ctgs: Brown and gray dense limestone.
- 680- 85-Ctgs: Brown and greenish gray dense and granular limestone.
- 685- 90-Ctgs: Brown dense limestone and shale.

- 690- 95-Ctgs: Same.
695- 700-Ctgs: Brown greenish dense limestone; dark shale noted.
700- 05-Ctgs: Brown dense limestone and dark shale.
705- 10-Ctgs: Same.
710- 15-Ctgs: Brown dense limestone.
715- 20-Ctgs: Brown greenish dense limestone.
720- 25-Ctgs: Same. Shale noted.
725- 30-Ctgs: Same.
730- 35-Ctgs: Same.
Ostracods.
735- 40-Ctgs: Brown dense limestone.
740- 45-Ctgs: Same.
745- 50-Ctgs: Brown dense limestone.
750- 55-Ctgs: Same with shale.
755- 70-Ctgs: Same.
770- 75-Ctgs: Drab-colored and brown dense limestone.
Ostracods.
775- 80-Ctgs: Same.
780- 85-Ctgs: Brown dense limestone.
785- 90-Ctgs: Grayish brown dense limestone.
790- 95-Ctgs: Same.
Ostracods noted.
795- 800-Ctgs: Same and greenish gray dense limestone.
800- 05-Ctgs: Same.
805- 10-Ctgs: Brown and gray dense limestone.
810- 15-Ctgs: Drab-colored and brown and grayish dense limestone.
815- 20-Ctgs: Brown and grayish dense limestone.
820- 25-Ctgs: Greenish gray finely granular limestone and drab-colored to gray dense limestone.
825- 30-Ctgs: Gray and greenish gray dense and finely granular limestone.
830- 40-Ctgs: Same.
840- 45-Ctgs: Same and green shaly lime.
845- 50-Ctgs: Same.
850- 55-Ctgs: Brown and gray limestone.
855- 60-Ctgs: Gray and greenish gray and drab-colored dense and granular limestone.
860- 65-Ctgs: Gray and greenish gray dense limestone.
865- 80-Ctgs: Same.
880- 85-Ctgs: Same and granular limestone.
885- 90-Ctgs: Gray granular limestone.
890- 95-Ctgs: Gray granular and dense limestone, greenish gray shale and brown limestone.
895- 900-Ctgs: Same and dense limestone.
900- 05-Ctgs: Greenish gray granular limestone and gray dense limestone.
Ostracods noted.
905- 10-Ctgs: Brown granular and dense limestone, gray dense limestone.

- 910- 15-Ctgs: Gray granular and dense limestone, fossiliferous. Ostracods noted.
- 910- 15-Ctgs: Same.
- 915- 20-Ctgs: Same and greenish gray limestone.
- 920- 25-Ctgs: Gray dense limestone.
- 925- 30-Ctgs: Gray to brown dense limestone. Ostracods.
- 930- 35-Ctgs: Gray dense limestone and crystalline calcite.
- 935- 40-Ctgs: Gray dense limestone, greenish limestone and shale noted.
- 940- 45-Ctgs: Same.
- 945- 50-Ctgs: Gray dense and finely granular limestone; greenish limestone noted.
- 950- 55-Ctgs: Bluish green dolomite and buff-colored limestone.
- 960- 65-Ctgs: Gray dense and granular limestone, and bluish green dolomite carrying occasional rounded quartz grains.
- 965- 70-Ctgs: Bluish green dolomite.
- 970- 75-Ctgs: Bluish green dolomite.
- 975- 80-Ctgs: Same and drab-colored dense limestone.
- 980- 95-Ctgs: Same.
- 995-1000-Ctgs: Light bluish green finely granular dolomite with pyrite and occasional rounded quartz grains. Dark shale noted.
- 1000- 05-Ctgs: Light bluish green dolomite and drab-colored limestone.
- 1005- 10-Ctgs: Same.
- 1010- 15-Ctgs: Light bluish green and gray dolomite; dark greenish gray shale frag. noted.
- 1015- 20-Ctgs: Light gray and bluish dolomite.
- 1020- 25-Ctgs: Light gray and bluish green dolomite; medium green shale with pyrite.
- 1025- 30-Ctgs: Same with occasional rounded sand grains.
- 1030- 35-Ctgs: Bluish green and gray granular sandy dolomite; sand composed of rounded frosted quartz. Tan colored dolomite.
- 1035- 40-Ctgs: Tan-colored dolomite. Rounded frosted sand grains.
- 1040- 45-Ctgs: Light gray and tan-colored dolomite, cream-colored limestone and green shale frag. with rounded frosted quartz grains.
- Knox**
- 1045- 50-Ctgs: Tan-colored dolomite.
- 1050- 55-Ctgs: Light gray and tan-colored dolomite; green shale. Occasional rounded frosted quartz grains noted.
- Knox**

Summary

Silurian	20'	to	35'
Ordovician	35'	to	1040'
Knox	1035'	to	1055' T.D.

Davis-Jaynes, et als

Shelton Estate #1

SW/4 of NW/4 of NW/4

Sec. 10—T 2 S—R 10 W

Lauderdale County, Ala.

Elev. 510 ft.

Began: Oct. 29, 1943

Comp. Nov. 9, 1943

- 30- 35-Ctgs: Black shale and gray hard sandstone. **Spores** ? noted.
Material from above.

Chattanooga

- 35- 40-Ctgs: Same. Pyrite.
40- 45-Ctgs: Black shale and sandy shale. Light green shale.

Chattanooga

- 45- 50-Ctgs: Light green crystalline limestone with **crinoid stems** and green shale. Pyrite.

Silurian

- 50- 55-Ctgs: Same.
55- 60-Ctgs: Same and pink **crinoid stems** noted.
60- 70-Ctgs: Same.
70- 75-Ctgs: Reddish brown fossiliferous limestone.
Brachiopods.
Crinoid stems.
75- 80-Ctgs: Same and light green limestone, from above ?
80- 85-Ctgs: Dark red and pink limestone with **crinoid stems**. Light green limestone from above ?
85- 95-Ctgs: Same.
95- 102-Ctgs: Pink and dark red limestone.
102- 05-Ctgs: Same.
105- 10-Ctgs: Dark red and pink limestone, and material from above.
110- 15-Ctgs: Pink lime, dark red lime and shale.
Crinoid stems.
115- 25-Ctgs: Same.
125- 30-Ctgs: Dark red and pink lime, and dark red shaly lime.
130- 35-Ctgs: Dark red limestone and shaly lime. **Ostracods**. Pink lime. Yellowish green limestone.
135- 40-Ctgs: Yellowish green sandstone and sandy lime. Chert. Red lime from above.
140- 45-Ctgs: Same.
145- 50-Ctgs: Gray sandy ? lime.

Ordovician

- 150- 55-Ctgs: Same.
155- 60-Ctgs: Same, with pyrite, and occasional sub-angular sand grains.
Gas show at 159'.
160- 65-Ctgs: Same, fossiliferous, and light gray coarsely crystalline limestone, fossiliferous, small black inclusions noted.
165- 85-Ctgs: Same.

- 185- 90-Ctgs: Gray sandy lime.
 190- 95-Ctgs: Gray sandy lime with black phosphatic inclusions, slightly fossiliferous.
 195- 200-Ctgs: Gray fossiliferous limestone with black phosphatic inclusions.
 200- 95-Ctgs: Same. Better gas show at 202 ft.
 Bryozoa and Brachiopod frag.
 205- 10-Ctgs: Gray limestone, fossiliferous with black phosphatic inclusions.
 Shell and coral frag.

Ordovician

- 210- 15-Ctgs: Same.
 215- 20-Ctgs: Gray fossiliferous limestone, phosphatic.
 220- 25-Ctgs: Same.
 Bryozoa noted.
 225- 30-Ctgs: Same.
 Coral frag.
 Crinoid stems.
 230- 35-Ctgs: Gray fossiliferous limestone with black phosphatic inclusions.
 240- 45-Ctgs: Same.
 Bryozoa.
 245- 60-Ctgs: Same.
 260- 65-Ctgs: Gray fossiliferous limestone with black phosphatic inclusions.
 265- 75-Ctgs: Same.
 275- 80-Ctgs: Same.
 Small brachiopod.
 280- 300-Ctgs: Same.
 300- 05-Ctgs: Gray fossiliferous, phosphatic limestone.
 305- 10-Ctgs: Gray fossiliferous, phosphatic limestone.
 Brachiopod frag.
 310- 15-Ctgs: Same.
 315- 20-Ctgs: Gray fossiliferous limestone with black phosphatic inclusions.
 320- 25-Ctgs: Same.
 325- 30-Ctgs: Gray fossiliferous limestone with black phosphatic inclusions.
 330- 35-Ctgs: Same.
 Small brachiopod.
 335- 45-Ctgs: Same.
 345- 50-Ctgs: Light gray crystalline limestone, fossiliferous with black phosphatic inclusions.
 350- 70-Ctgs: Same.
 370- 75-Ctgs: Gray lime with pyrite and occasional black phosphatic inclusions.
 375- 80-Ctgs: Same and shaly lime.
 380- 85-Ctgs: Same.
 385- 90-Ctgs: Gray limestone and shaly lime.

- 390- 95-Ctgs: Gray fossiliferous limestone with black phosphatic inclusions and shaly lime.
- 395- 400-Ctgs: Same.
- 400- 05-Ctgs: Gray fossiliferous limestone with phosphatic inclusions.
- 405- 10-Ctgs: Same.
- 410- 15-Ctgs: Same and shaly lime.
- 415- 20-Ctgs: Same.
Ostracods noted.
- 420- 30-Ctgs: Same.
- 430- 35-Ctgs: Dark gray limestone.
- 435- 40-Ctgs: Same.
- 440- 45-Ctgs: Same and shaly lime.
- 445- 50-Ctgs: Same.
- 450- 55-Ctgs: Dark gray limestone and shaly lime, part with black phosphatic inclusions.
- 455- 60-Ctgs: Same.
- 460- 65-Ctgs: Light brown slightly granular, fossiliferous limestone.
- 465- 70-Ctgs: Brown dense limestone, slightly fossiliferous.
- 470- 75-Ctgs: Light brown dense limestone.
- 475- 80-Ctgs: Same, and slightly granular limestone. **Oil show at 478'.**
- 482- 84-Ctgs: Light brown dense and granular limestone.
- 484-89½-Ctgs: Same.
- 494- 500-Ctgs: Brown crystalline and granular limestone, part with slight brown stain.
- 500- 05-Ctgs: Light brown crystalline limestone, part stained brown.
- 505- 10-Ctgs: Tan and light brown crystalline limestone, fossiliferous, part with brown stain.
Small brachiopod.
- 510- 15-Ctgs: Same. Crystalline calcite noted. Frag. of oolitic limestone noted.
- 515- 20-Ctgs: Brown and tan crystalline and dense limestone, part oolitic.
- 520- 25-Ctgs: Brown dense limestone.
Coral noted.

Ordovician**Summary**

Chattanooga	30'	to	45'
Silurian	45'	to	145-50'
Ordovician	145-50'	to	525' T.D.

Davis-Jaynes
 Shelton Estate #2
 NE/4 of NE/4
 Sec. 9—T 2 S—R 10 W
 Lauderdale County, Ala.

Elev. 515 feet
 Began November, 1943
 Comp. December, 1943

- 35- 40-Ctgs: Black shale with pyrite, sandstone, greenish gray lime with small black inclusions (pink limestone out of place ?)

Chattanooga

- 40- 45-Ctgs: Black shale with pyrite and sandy shale, spores noted, green clay frag.

Chattanooga

- 45- 50-Ctgs: Black sandy shale.

Chattanooga

- 50- 55-Ctgs: Same with green shale and lime, fossiliferous.

Silurian

- 55- 60-Ctgs: Same. **Crinoid stems** noted. **Lingula sp.** noted in black shale, from above.
 60- 65-Ctgs: Light greenish gray fossiliferous lime and shale, and pink lime noted.

Silurian

- 65- 70-Ctgs: Light greenish gray limestone and shale.
 70- 75-Ctgs: Same and pink tinged limestone and dark red shale frag Crinoid stems.
 75- 80-Ctgs: Same.
 80- 85-Ctgs: Dark reddish brown and pink limestone, fossiliferous. Crinoid stems.
 85- 90-Ctgs: Same.
 90- 97-Ctgs: Same and pink and greenish gray limestone.
 97- 100-Ctgs: Dark reddish brown and pink limestone.
 100- 05-Ctgs: Greenish gray and pink limestone.
 105- 10-Ctgs: Pink, gray and dark red limestone. Crinoid stems. Ostracods.
 110- 15-Ctgs: Dark reddish brown and pink limestone with **crinoid stems**.
 115- 20-Ctgs: Same. Small brachiopod noted.
 120- 25-Ctgs: Pink limestone and dark reddish brown lime and shale.
 125- 30-Ctgs: Pink and greenish gray limestone with dark red streaks. **Ostracods**. Dark reddish brown shale.
 130- 45-Ctgs: Same.

- 145- 50-Ctgs: Pink limestone and reddish brown limestone and shale with **crinoid stems** and other fossils, and reddish green limestone.

Ordovician

- 150- 55-Ctgs: Yellowish cherty limestone; yellowish gray sandy lime.
155- 60-Ctgs: Gray sandy lime. Phosphatic inclusions noted. Occasional coarse-grained sub-angular sand.

Ordovician

- 160- 65-Ctgs: Same as preceding.
165- 70-Ctgs: Same, part fossiliferous.
170- 75-Ctgs: Gray sandy lime, fossiliferous.
175- 80-Ctgs: Same.
180- 85-Ctgs: Same. Small black inclusions noted.
185- 90-Ctgs: Same.
190- 95-Ctgs: Same and material from above.
195- 200-Ctgs: Greenish gray sandy limestone and shale.
200- 05-Ctgs: Light gray crystalline limestone, fossiliferous with black phosphatic material.
205- 10-Ctgs: Same with black phosphatic inclusions, fossiliferous.
210- 15-Ctgs: Gray fossiliferous limestone with black phosphatic material.
Coral frag.
215- 20-Ctgs: Gray fossiliferous limestone with black phosphatic inclusions.
Bryozoa and sandy limestone.
220- 25-Ctgs: Same.
225- 30-Ctgs: Same and greenish gray shale.
230- 35-Ctgs: Gray fossiliferous limestone with black phosphatic inclusions; gray shale.
Brachiopod and Bryozoa frag.
235- 40-Ctgs: Same with gray sandy or granular limestone.
240- 55-Ctgs: Same.
255- 60-Ctgs: Same with yellow phosphatic material.
Bryozoa.
260- 65-Ctgs: Same.
265- 70-Ctgs: Light gray crystalline limestone with black phosphatic inclusions, fossiliferous.
270- 80-Ctgs: Same.
280- 85-Ctgs: Same with black shale.
285- 90-Ctgs: Gray crystalline limestone with brown and black phosphatic inclusions, fossiliferous, and black shaly phosphatic lime.
290- 300-Ctgs: Same.
300- 05-Ctgs: Gray crystalline limestone with black phosphatic inclusions, fossiliferous.
305- 10-Ctgs: Gray crystalline fossiliferous limestone with black phosphatic inclusions.
310- 15-Ctgs: Gray fossiliferous limestone with black phosphatic inclusions.

315-	45-Ctgs:	Same.
345-	50-Ctgs:	Same.
		Small brachiopod noted.
350-	60-Ctgs:	Same.
360-	65-Ctgs:	Same with crystalline calcite.
365-	70-Ctgs:	Same.
370-	75-Ctgs:	Same with dark gray shaly lime.
375-	80-Ctgs:	Dark gray limestone and shaly lime.
380-	85-Ctgs:	Same.
385-	90-Ctgs:	Same.
		Shell frag.
390-	95-Ctgs:	Same and shale.
395-	405-Ctgs:	Same.
405-	10-Ctgs:	Same and gray limestone with small black phosphatic inclusions.
410-	15-Ctgs:	Gray limestone and dark gray shale.
415-	20-Ctgs:	Gray limestone and shale, fossiliferous.
420-	25-Ctgs:	Same with small black inclusions noted.
425-	30-Ctgs:	Same.
		Ostracods.
430-	80-Ctgs:	Same.
480-	85-Ctgs:	Drab-colored dense and granular limestone, fossiliferous.
485-	505-Ctgs:	Same.
505-	07-Ctgs:	Light brown crystalline and dense limestone.
507-	10-Ctgs:	Same, slightly fossiliferous.
510-	14-Ctgs:	Light brown dense and crystalline limestone, fossiliferous, with black streaks.
514-	18-Ctgs:	Light brown crystalline limestone.
518-	22-Ctgs:	Grayish brown coarsely crystalline limestone with black streaks.
522-	26-Ctgs:	Grayish brown crystalline limestone with black streaks.
526-	30-Ctgs:	Grayish brown crystalline limestone, fossiliferous.
530-	35-Ctgs:	Same.
535-	40-Ctgs:	Light brown dense and crystalline limestone, part slightly oolitic, with black streaks, fossiliferous.
540-	45-Ctgs:	Light brown dense and crystalline limestone.
545-	50-Ctgs:	Same.

Ordovician

Summary

Chattanooga	35'	to	50'
Silurian	50'	to	155-60'
Ordovician	155-60'	to	550' T.D.

Davis-Jaynes

Shelton Estate #3

NE cor SW/4 of NW/4

Sec. 10—T 2 S—R 10 W

Lauderdale County, Ala.

Elev. 535'

Began December, 1943

- 40- 45-Ctgs: Ft. Payne chert with **crinoid stems**, light gray limestone and green shale.
- 45- 50-Ctgs: Same.
- 50- 55-Ctgs: Yellowish chert and **crinoid stems** from Ft. Payne above, and light gray limestone, and green shaly lime with **crinoid stems**.
- 55- 60-Ctgs: Light gray limestone and green shaly lime, fossiliferous. **Crinoid stems**; bluish cherty limestone.
- 60- 65-Ctgs: Crinoid stems, blue and yellow chert; light green limestone and shale; yellow chert and **crinoid stems**, prob. from above in Fort Payne.
- 65- 70-Ctgs: Light gray fossiliferous limestone and green shaly and sandy limestone with small black inclusions, and phosphatic material; sandstone frag. with small black inclusions.
- 70- 75-Ctgs: Black shale and sandy shale and gray sandstone with pyrite.

Chattanooga Shale

- 75- 80-Ctgs: Same.
Spores noted.
- 80- 85-Ctgs: Brownish black shale with **Lingula sp.** frag. ? and pyrite.
Spores noted. Gray quartzitic sandstone.

Chattanooga

- 85- 90-Ctgs: Brownish gray sandy shale with spores; and dense fine-gr. sandstone, and green fossiliferous lime.
- 90- 95-Ctgs: Greenish gray fossiliferous limestone and green shaly lime.

Silurian

- 95- 100-Ctgs: Same, with frag. of dark red lime noted.
- 100- 05-Ctgs: Greenish gray coarsely crystalline limestone, slightly pink-tinged.
- 105- 10-Ctgs: Same with **crinoid stems**, red limestone frag. noted.
- 112- 15-Ctgs: Greenish gray limestone and shaly lime slightly pink-tinged.
- 115- 20-Ctgs: Dark red, pink and greenish gray limestone with **crinoid stems**.
- 120- 25-Ctgs: Dark red and pink limestone with **crinoid stems**; green lime noted.
- 125- 30-Ctgs: Dark red and pink limestone, fossiliferous.
- 130- 35-Ctgs: Same.
- 135- 40-Ctgs: Same with greenish gray lime.

- 140- 45-Ctgs: Pink coarsely crystalline limestone with green shaly lime, fossiliferous.
 145- 50-Ctgs: Same with dark red lime.
 150- 55-Ctgs: Pink and dark red lime and shaly lime, fossiliferous.
 155- 60-Ctgs: Same.
 160- 65-Ctgs: Same.
 Ostracods noted.
 165- 70-Ctgs: Dark red and pink limestone and red shaly lime, fossiliferous.
 170- 75-Ctgs: Same.
 Ostracods noted.
 175- 80-Ctgs: Same.
 180- 85-Ctgs: Reddish brown limestone and shaly lime and pink limestone with green streaks, fossiliferous.
 185- 90-Ctgs: Same.
 190- 95-Ctgs: Gray and yellow sandy lime with pyrite.

Ordovician

- 195- 200-Ctgs: Gray sandy lime.
 200- 05-Ctgs: Same.
 205- 10-Ctgs: Same and gray very fossiliferous limestone.
 210- 15-Ctgs: Same.
 215- 20-Ctgs: Gray sandy limestone with pyrite.
 220- 40-Ctgs: Same.
 240- 45-Ctgs: Gray crystalline limestone with black phosphatic inclusions. Pyrite.
 Coral frag.

Ordovician

- 245- 50-Ctgs: Same, very fossiliferous.
 Brachiopod frag. abundant.
 250- 55-Ctgs: Same with dark gray shale.
 255- 75-Ctgs: Same.
 275- 80-Ctgs: Same. Shale noted.
 280- 90-Ctgs: Same.
 290- 95-Ctgs: Same very fossiliferous and with yellowish and black phosphatic inclusions.
 295- 300-Ctgs: Gray limestone with small black phosphatic inclusions.
 300- 05-Ctgs: Same, fossiliferous.
 305- 10-Ctgs: Same with shale.
 310- 15-Ctgs: Gray crystalline limestone with black phosphatic inclusions, fossiliferous.
 315- 20-Ctgs: Same with brown phosphatic inclusions.
 320- 25-Ctgs: Same and gray shale.
 325- 30-Ctgs: Same.
 330- 35-Ctgs: Same and shaly lime.
 335- 40-Ctgs: Same.
 340- 45-Ctgs: Gray limestone with black phosphatic inclusions, part cherty.
 Ostracods.
 345- 50-Ctgs: Gray sandy limestone, fossiliferous.

- 350- 55-Ctgs: Gray limestone with small black inclusions.
 355- 60-Ctgs: Gray limestone with black phosphatic inclusions, fossiliferous.
 360- 65-Ctgs: Same.
 365- 70-Ctgs: Gray limestone with black phosphatic inclusions, fossiliferous.
 370- 405-Ctgs: Same.
 405- 10-Ctgs: Same and shale.
 410- 15-Ctgs: Same.
 415- 20-Ctgs: Same with increasing amount of shaly lime.
 420- 25-Ctgs: Gray limestone and dark gray shaly lime.
 425- 45-Ctgs: Same.
 445- 50-Ctgs: Gray limestone with black phosphatic inclusions and shale.
 450- 55-Ctgs: Same.
 455- 60-Ctgs: Same, fossiliferous.
 460- 95-Ctgs: Same.
 495- 500-Ctgs: Gray lime and shale.
 500- 05-Ctgs: Dark gray lime and sandy lime with black inclusions, and shale.
 505- 15-Ctgs: Same.
 515- 20-Ctgs: Drab-colored dense limestone slightly granular, pyrite inclusions noted.
 Brachiopod.

Black River

- 520- 25-Ctgs: Same, fossiliferous, with slight brown stain.
 525- 30-Ctgs: Same.
 530- 35-Ctgs: Same with more granular limestone.
 535- 45-Ctgs: Same.
 545- 50-Ctgs: Same.

Ordovician**Summary**

Chattanooga	70'	to	85-90'
Silurian	90'	to	190'
Ordovician	190'	to	550'
Black River		at	515'

J. L. Jaynes et als
Janet C. Simpson #1
NW/4 of SW/4 of NE/4
Sec. 33—T 1 S—R 10 W
Lauderdale County, Ala.

Elev. 530 ft.

Began Aug. 17, 1944

Comp. August 30, 1944

- 5- 10-Ctgs: Brownish black shale and sandstone, gray and greenish crystalline limestone.

Silurian with Chattanooga Shale

- 10- 15-Ctgs: Gray and green crystalline limestone with pyrite inclusions and green shaly lime, fossiliferous.
15- 20-Ctgs: Same.
20- 25-Ctgs: Same.
25- 30-Ctgs: Crinoid stems.
30- 35-Ctgs: Same.
35- 40-Ctgs: Gray, pink and green crystalline fossiliferous limestone.
40- 45-Ctgs: Same.
45- 50-Ctgs: Pink and gray and green crystalline limestone and green shaly lime.
50- 55-Ctgs: Same and crystalline calcite.
55- 60-Ctgs: Pink, green and gray limestone with pyrite inclusions.
60- 65-Ctgs: Pink, gray and green limestone with crystalline calcite.
65- 70-Ctgs: Pink, gray and green limestone, pink **crinoid stems** noted.
70- 85-Ctgs: Same.
85- 90-Ctgs: Pink and gray limestone with **crinoid stems**.
90- 95-Ctgs: Pink, red, gray and green limestone.
Brachiopods and crinoid stems noted.
95- 100-Ctgs: Pink and red, gray and green limestone.
Crinoid stems noted.

Silurian

- 100- 05-Ctgs: Same and gray and green fossiliferous limestone.
105- 10-Ctgs: Gray sandy limestone with black phosphatic inclusions.

Ordovician

- 110- 25-Ctgs: Same.
125- 30-Ctgs: Same. Pyrite.
130- 35-Ctgs: Gray sandy limestone.
135- 40-Ctgs: Gray phosphatic limestone, fossiliferous.
140- 45-Ctgs: Gray crystalline limestone with black phosphatic material, fossiliferous.
145- 50-Ctgs: Same.
150- 55-Ctgs: Gray and black phosphatic limestone, very fossiliferous.
Brachiopods.
155- 65-Ctgs: Same.
165- 70-Ctgs: Light gray crystalline limestone, fossiliferous, phosphatic, dark gray granular, phosphatic limestone, fossiliferous.

- 170 75-Ctgs: Same.
175- 80-Ctgs: Gray crystalline and granular limestone with black phosphatic inclusions, fossiliferous.
Brachiopod frag.
180- 85-Ctgs: Same with more phosphatic material.
185- 90-Ctgs: Yellow and gray phosphatic limestone, very fossiliferous.
Bryozoa.
190- 95-Ctgs: Gray fossiliferous limestone with black phosphatic inclusions.
195- 200-Ctgs: Same.
200- 05-Ctgs: Same.
Bryozoa.
205- 15-Ctgs: Same.
215- 20-Ctgs: Yellow and gray phosphatic limestone.
220- 25-Ctgs: Gray and yellowish phosphatic limestone and dark gray shaly lime with phosphatic inclusions.
225- 30-Ctgs: Same.
230- 35-Ctgs: Dark gray limestone with phosphatic inclusions, fossiliferous.
235- 40-Ctgs: Gray phosphatic limestone, slightly fossiliferous, and cherty.
240- 50-Ctgs: Same.
250- 55-Ctgs: Same and shale.
255- 60-Ctgs: Gray crystalline phosphatic limestone, fossiliferous, black shale frag.
260- 65-Ctgs: Same with abundant phosphatic material and crystalline calcite.
265- 70-Ctgs: Gray to black limestone with abundant black phosphatic inclusions.
270- 75-Ctgs: Gray to black limestone with phosphatic inclusions.
275- 80-Ctgs: Same with **shell impressions** noted.
280- 85-Ctgs: Same.
285- 90-Ctgs: Same, fossiliferous.
290- 95-Ctgs: Same. Chert noted.
295- 305-Ctgs: Same.
305- 10-Ctgs: Same and dark gray and somewhat shaly lime.
310- 15-Ctgs: Same with gray to black shaly lime.
315- 25-Ctgs: Same.
325- 30-Ctgs: Same and brown limestone.
330- 35-Ctgs: Same.
335- 40-Ctgs: Same with shale.
340- 45-Ctgs: Gray phosphatic limestone, fossiliferous, and gray to black shaly lime.
345- 60-Ctgs: Same.
360- 65-Ctgs: Same with gray to black shaly lime.
365- 400-Ctgs: Same.
400- 04-Ctgs: Same with gray to black shaly lime.
405- 10-Ctgs: Same with light gray crystalline limestone.

410-	15-Ctgs:	Light gray limestone with crystalline calcite.
415-	20-Ctgs:	Light brown dense limestone.
420-	25-Ctgs:	Same, slightly fossiliferous.
425-	30-Ctgs:	Light brown dense limestone, slightly granular.
430-	45-Ctgs:	Same.
445-	50-Ctgs:	Light brown dense and crystalline limestone.
450-	55-Ctgs:	Light brown crystalline limestone.
455-	60-Ctgs:	Same.
460-	65-Ctgs:	Brown dense and crystalline limestone, fossiliferous.
465-	70-Ctgs:	Same.
470-	75-Ctgs:	Light brown dense and crystalline limestone.
475-	80-Ctgs:	Brown dense and crystalline limestone.
480-	85-Ctgs:	Brown dense and granular limestone, cherty.
485-	500-Ctgs:	Same.

Summary

Chattanooga	to.....	5'
Silurian	5'.....to.....	105'
Ordovician	105'.....to.....	500' T.D.
Black River	405'.....to.....	500'

LAWRENCE COUNTY

Mid-Southern Petroleum Co.

W. R. Jackson #1

NE Cor. Sec. 30—T 7 S—R 6 W

Lawrence County, Alabama

Elev. about 640 ft.

Began April 1, 1939

Comp. August 16, 1940

- 138 ft.-Ctgs: Medium and light gray hard, fossiliferous limestone. Chert frag.
Crinoid stems.
Shell frag.
- 148 ft.-Ctgs: Same. Pyrite.
Bryozoa ? frag.
- 158 ft.-Ctgs: Medium gray compact limestone, part very fossiliferous, **brachiopods**. Pyrite in limestone. Light gray limestone. Brown conglomerate with oolitic material, **brachiopods**, small **gastropods** and **casts of gastropods**.
Crinoid stems.
Bryozoa frag.
No Forams. noted.

Bangor

- 168 ft.-Ctgs: Hard light brown oolitic limestone light brown crystalline limestone.
Crinoid stems and plates.
Small gastropods and frag. of brachiopods.
Very small brachiopods.
- 177 ft.-Ctgs: Light gray and light brown oolitic and crystalline limestone.
Small brachiopods.
- 188 ft.-Ctgs: Brown oolitic crystalline limestone.
Fossils.
- 198 ft.-Ctgs: Brown oolitic and crystalline limestone.
- 208 ft.-Ctgs: Light brown granular and oolitic limestone.
- 215 3/10 ft.-Ctgs: Gray oolitic and brown crystalline limestone.
Small brachiopod.
- 219 ft.-Ctgs: Medium gray shale with an abundance of **Fenestella Bryozoa**. Light brown crystalline limestone, calcite veins noted. Light brown oolitic limestone.
- 223 ft.-Ctgs: Same and **Crinoid stems**.
Bryozoa abundant.
- 226½ ft.-Ctgs: Light gray and brownish oolitic and crystalline limestone.
Shale frag.
Bryozoa and brachiopods.
- 230 ft.-Ctgs: Light gray fossiliferous limestone with **Fenestella Bryozoa** and **Brachiopods**. Oolitic limestone.

- 239 ft.-Ctgs: Light gray fossiliferous limestone and shale; and sandy limestone.
 244 ft.-Ctgs: Same.
 Crinoid stems.
 247 ft.-Ctgs: Medium to fine-grained sand and fossiliferous limestone.
 Brachiopod frag.

Hartselle

- 251 ft.-Ctgs: Fine and medium-grained sand and sandy lime; light gray limestone. Trace of oil.
 255 ft.-Ctgs: Medium to fine-grained sand and sandy lime.
 Fossils frag.
 Crinoid stems.
 Slight show of oil.
 259 ft.-Ctgs: Medium to fine-grained sand and fossiliferous limestone.
 263 ft.-Ctgs: Fine-grained angular and brown sand composing about three-fourths of sample. Medium gray limestone. Greenish gray shale. **Fossils.**
 Crinoid stems.
 Fenestella Bryozoa.
 Other Bryozoa frag.
 Small brachiopods.
 Good show of oil with Chloroform test.
 269 ft.-Ctgs: Brown fine-grained angular sand composing almost the entire sample. Frag. of fossiliferous gray limestone and greenish gray shale. Good show of oil with Chloroform test.
 274 ft.-Ctgs: Very fine-grained sand with mica.
 276 ft.-Ctgs: Same with some asphaltic material. Mica.
 278 ft.-Ctgs: Frag. of black fossiliferous shale and medium green shale.
 Hard fine-gr. sandstone.
 280 ft.-Ctgs: Black fossiliferous shale. Fine-grained sandstone.
 Small gastropods.
 Ostracods.
 284½ ft.-Ctgs: Dark green fossiliferous shale. Sandstone from above.
 Ostracods, several species.
 293 ft.-Ctgs: Hard coarse-grained sandstone with asphalt. Dense black shale with carbonaceous material.

Gap in Samples

- 570- 75-Ctgs: Cream-colored crystalline limestone with brownish stain; white crystalline limestone. Pyrite. Brownish black shale probably from above.
 585- 90-Ctgs: Same, with grayish brown crystalline limestone.
 Shell frag.
 590- 95-Ctgs: Same.
 595- 600-Ctgs: Same and pearly white crystalline limestone with **brachiopod impressions.**
 Crinoid stems.

- 600- 05-Ctgs: Drab-colored crystalline limestone; milky chert.
Frag. of pelecypod from above.
- 605- 10-Ctgs: Cream-colored to white crystalline limestone; frag. of
pelecypods and **gastropods** coming from above ? Brown
and white chert.
- 610- 15-Ctgs: Cream-colored and brown crystalline limestone.
- 615- 20-Ctgs: Drab-colored and brown stained crystalline limestone,
having somewhat the appearance of coquina and crinoid
stems rounded. Oolitic limestone frag.
Small brachiopod.
Endothyra cf. baileyi.

Spergen ?

- 620- 25-Ctgs: Same with oolitic limestone.
Endothyra cf. baileyi.
- 625- 30-Ctgs: Same.
- 635- 40-Ctgs: Cream-colored and brown crystalline limestone.
Endothyra.
- 640- 45-Ctgs: Brownish gray crystalline limestone. Oolitic limestone
frag.
Ostracods.
Crinoid stems.
- 645- 50-Ctgs: Brownish gray crystalline, very fossiliferous limestone,
with **Bryozoa**, **crinoid stems** and **Ostracods**; brownish
gray limestone; **pelecypod** with black shale matrix from
above ? frag. of very coarsely crystalline limestone with
asphaltic residue.
- 650- 55-Ctgs: Same, and light brown crystalline limestone; milky chert
noted.
- 655- 60-Ctgs: Same.

Prob. Fort Payne

- 660- 65-Ctgs: Light grayish brown finely crystalline limestone. **Crinoid
stems**. Milky chert; frag. of sandy chert noted.
- 665- 70-Ctgs: Light brown crystalline limestone and chert.
Ostracods.
Brachiopod frag.
- 670- 75-Ctgs: Same.
- 675- 80-Ctgs: White and brown-stained crystalline limestone; white
chert and oolitic chert.
- 680- 85-Ctgs: Brown and white fossiliferous limestone with crystalline
calcite.
Bryozoa.
- 685- 90-Ctgs: Same.
Crinoid stems.
- 690- 95-Ctgs: Same.
Ostracods.
- 695- 700-Ctgs: Same.
- 700- 05-Ctgs: Same and milky chert.
- 705- 10-Ctgs: Same and milky and brown chert.

- 710- 15-Ctgs: Light and dark brown crystalline limestone; white limestone; milky and brown chert.
- 715- 20-Ctgs: Same.
- 720- 25-Ctgs: Same and cream-colored crystalline limestone.
- 725- 30-Ctgs: Same and **brachiopod impressions**.
- 730- 35-Ctgs: Same with increasing amount of milky and bluish chert.
- 735- 40-Ctgs: Same and bluish limestone.
- 740- 45-Ctgs: Same.
- 745- 50-Ctgs: Same and chert showing impressions of fossils; more blue and milky chert.
- 750- 55-Ctgs: Same and frag. of very dark granular limestone, very fossiliferous.
- 755- 60-Ctgs: Same.
- 755- 60-Ctgs: Same.
- 760- 65-Ctgs: Grayish limestone with glauconite.
- 765- 70-Ctgs: Same.
- 770- 75-Ctgs: Brown chert and brown and gray limestone.
- 775- 80-Ctgs: Bluish chert and brown granular limestone.
- 780- 800-Ctgs: Same.
- 800- 05-Ctgs: Same, somewhat darker in color and brown chert.
- 805- 15-Ctgs: Same.
- 815- 20-Ctgs: Same and an abundance of chert.
- 820- 25-Ctgs: Same and dark brown granular limestone.
- 825- 30-Ctgs: Dark brown chert; dark brown limestone; almost black limestone.
- 840- 50-Ctgs: Same.
- 850- 55-Ctgs: Same and brown chert, very abundant.
- 855- 60-Ctgs: Same.
- 860- 65-Ctgs: Brown chert and brown to almost black limestone.
- 870- 75-Ctgs: Very dark brown limestone; brown chert, part with glauconite.
- 875- 80-Ctgs: White and greenish and gray glauconite limestone and shale; dark brown limestone; milky chert, limestone carrying pyrite.
Large crinoid stem.
- 880- 85-Ctgs: Green shale carrying pyrite; green limestone with glauconite; light gray limestone; milky chert.
- 885- 90-Ctgs: Same with pyrite.
- 890- 95-Ctgs: Black shale with **spores**; dark brown gran. limestone; pyrite.
- Chattanooga**
- 895- 900-Ctgs: Same and dark brown and light gray hard fine-grained sandstone.
- 900- 05-Ctgs: Same; black shale with **spores**.
- 905- 10-Ctgs: Same.
- 910- 15-Ctgs: Same. Shale with sand lenses noted.
- 915- 20-Ctgs: Same.

- 920- 25-Ctgs: Black shale and greenish gray lime. Pyrite and rounded quartz grains.
Ostracods.
- 925- 30-Ctgs: Same.
- 930- 35-Ctgs: Brownish gray crystalline limestone with pyrite. Frag of pinkish tinged limestone.
Crinoid stems pinkish-tinged.

Silurian

- 935- 40-Ctgs: Same.
- 940- 45-Ctgs: Dark red shale; green shale and gray limestone. Pyrite. Pink limestone.
- 945- 50-Ctgs: Light gray and pink and yellow-tinged limestone; glauconite noted. Dark red shale frag.
- 950- 55-Ctgs: Same and frag. of pink, green and yellow tinged limestone.
- 955- 60-Ctgs: Same with gray glauconitic limestone.
- 960- 65-Ctgs: Same with dark red limestone frag.
- 965- 70-Ctgs: Same.
- 970- 75-Ctgs: White and brownish crystalline limestone, part with greenish color. **Brachiopod frag.** and **impressions abundant.** Part of limestone, slightly pinkish. Pyrite.
- 975- 80-Ctgs: Same.
- 980- 85-Ctgs: Same with more white limestone, and dark greenish gray limestone with pyrite.

Prob. Ordovician

- 985- 90-Ctgs: Dark gray to black shaly lime; light gray lime with black grains, all fossiliferous.
- 990- 95-Ctgs: Same.
- 995-1000-Ctgs: Same. **Coral frag.** and **Bryozoa** abundant. Light gray limestone with **Brachiopod** and **Bryozoa** noted.
- 1005- 10-Ctgs: Light gray limestone and greenish gray limestone. Pink sand from above.
Shell frag.

Prob. Trenton

- 1010- 15-Ctgs: Light gray limestone frag.; dark greenish gray limestone with small black inclusions.
Shell frag.
- 1015- 20-Ctgs: Dark greenish gray limestone with small black inclusions.
- 1020- 25-Ctgs: Same with increasing amount of small black inclusions; light gray crystalline limestone, fossiliferous in part.
- 1025- 30-Ctgs: Same and **Bryozoa** noted.
- 1030- 35-Ctgs: Same.
Brachiopod valves noted.
- 1035- 40-Ctgs: Same.
- 1040- 45-Ctgs: Light gray crystalline limestone with dark inclusions; dark greenish gray fossiliferous limestone.
- 1045- 50-Ctgs: Same.
- 1050- 55-Ctgs: Same.
Coral and Brachiopod frag.
- 1055- 60-Ctgs: Same.

- 1060- 65-Ctgs: Light gray crystalline limestone with black inclusions in part. **Coral frag.**; dark greenish limestone with black inclusions.
- 1065- 70-Ctgs: Same. Greenish gray lime with **Bryozoa** noted.
- 1070- 75-Ctgs: Same with **brachiopod frag.** abundant.
Other shell frag.
- 1075- 80-Ctgs: Same with **bryozoa**.
Other shell frag.
- 1080- 85-Ctgs: Same.
Bryozoa; coral and other shell frag
- 1085- 90-Ctgs: Same.
- 1090- 95-Ctgs: Same, having the appearance of being weathered.
- 1095-1105-Ctgs: Same.
- 1105- 10-Ctgs: Same and brown crystalline calcite.
- 1115- 20-Ctgs: Light gray crystalline limestone with black inclusions; medium greenish gray limestone with abundant black inclusions. Pyrite noted.
Brachiopod frag.
Other shell frag.
- 1130- 45-Ctgs: Same.
- 1140- 45-Ctgs: Same, and phosphatic nodules ?
More shell frag.
- 1145- 50-Ctgs: Same.
Bryozoa.
- 1150- 55-Ctgs: Same.
Brachiopods.
- 1155- 70-Ctgs: Same.
- 1170- 75-Ctgs: Same. Phosphatic nodules ?
- 1175- 80-Ctgs: Same.
- 1180- 85-Ctgs: Same and brown chert frag.
- 1185- 90-Ctgs: Same. **Brachiopod frag.** abundant. **Crinoid stem.** Milky chert noted.
- 1190- 95-Ctgs: Same and brown and milky chert noted.
- 1195-1200-Ctgs: Same with **brachiopod frag.** very abundant.
- 1200- 05-Ctgs: Dark greenish gray crystalline limestone with black inclusions.
Brachiopod frag. and impressions.
- 1205- 10-Ctgs: Same and light gray limestone.
- 1210- 15-Ctgs: Same.
- 1215- 20-Ctgs: Same with more light gray and hard brownish gray limestone.
- 1220- 30-Ctgs: Same.
- 1230- 35-Ctgs: Same and brownish gray crystalline limestone.
- 1235- 40-Ctgs: Same and light brown crystalline limestone with **Ostracods**.
- 1240- 45-Ctgs: Same with more light gray limestone. Brown chert frag.
- 1245- 50-Ctgs: Same and small amount of bentonite ?
- 1250- 55-Ctgs: Light brown and light gray limestone; rounded frag. of light gray non-calc. shaly clay with pyrite—bentonite ?

- 1255- 60-Ctgs: Brownish gray dense limestone; brownish granular limestone; rounded frag. of light gray soft non-calcareous shaly clay with pyrite—bentonite ?
- 1260- 65-Ctgs: Same and brown chert noted. Milky fossiliferous chert noted.
- 1280- 85-Ctgs: Same, and dark brownish gray crystalline limestone. **Brachiopod impression** in light gray limestone. Crystalline calcite noted. Light brown chert noted.
- 1285- 90-Ctgs: Same.
- 1290- 95-Ctgs: Brownish gray crystalline limestone; greenish gray granular limestone; light gray crystalline limestone, part fossiliferous. Pyrite.
- 1295-1300-Ctgs: Same. **Crinoid stem** noted. Dark grayish brown limestone carrying **crinoid stems**; greenish gray shaly clay.
- 1300- 05-Ctgs: Grayish brown dense limestone; buff-colored limestone, part fossilif.
- 1305- 10-Ctgs: Buff-colored crystalline limestone.
- 1310- 15-Ctgs: Same and frag. of dark greenish gray granular limestone.
- 1315- 20-Ctgs: Same. Crystalline calcite.
- 1320- 25-Ctgs: Same and brown granular limestone.
- 1325- 30-Ctgs: Same.
- 1335- 40-Ctgs: Same and light greenish gray dense limestone.
- 1330- 35-Ctgs: Same.
- 1340- 45-Ctgs: Gray dense limestone, slightly greenish; brownish gray dense limestone, part with **Ostracods**; brown granular limestone; light gray fossiliferous limestone noted. Brachiopod frag.
- 1345- 50-Ctgs: Same. **Large Ostracods. Brachiopod impressions.** Brown chert noted. Brownish black granular limestone frag.
- 1350- 55-Ctgs: Same.
- 1355- 60-Ctgs: Brown and grayish brown dense limestone. Ostracods noted and impressions of brachiopods.
- 1360- 65-Ctgs: Same. Coral frag.
- 1365- 70-Ctgs: Light brown and buff-colored crystalline and dense limestone, part slightly oolitic; light brown granular limestone; crystalline calcite. Ostracods.
- 1370- 75-Ctgs: Same.
- 1375- 80-Ctgs: Same and greenish gray dense limestone. Ostracods.
- 1380- 85-Ctgs: Light brown dense and granular limestone; frag. of dark brown dense limestone. Asphaltic ? residue noted.
- 1385- 95-Ctgs: Same.
- 1395-1400-Ctgs: Same with an increasing amount of brown granular limestone.
- 1400- 05-Ctgs: Same and brown crystalline limestone; crystalline calcite noted.
- 1405- 10-Ctgs: Same. Pyrite noted.

- 1410- 20-Ctgs: Same.
- 1420- 25-Ctgs: Same and buff-colored limestone.
- 1425- 30-Ctgs: Same.
- 1430- 35-Ctgs: Same.
Ostracods.
- 1435- 40-Ctgs: Same.
- 1440- 45-Ctgs: Light gray and buff-colored limestone, composed to considerable extent of crystalline calcite. Crystalline calcite. Frag. of light gray coarsely crystalline limestone. Shell impressions.
Ostracods.
Bryozoa impressions.
Large crinoid stems.
- 1445- 50-Ctgs: Same.
Bryozoa.
Large Ostracods.
Shell impressions.
Brachiopods.
Frag. of corals.
- 1450- 55-Ctgs: Same.
Small brachiopods.
Coral frag.
Ostracods.
- 1455- 60-Ctgs: Same.
- 1460- 65-Ctgs: Same and brown granular limestone. Pyrite.
- 1465- 70-Ctgs: Same.
- 1470- 75-Ctgs: Same. Part of limestone, very fossiliferous.
- 1475- 80-Ctgs: Same and **brachiopod impressions**.
Brachiopods.
- 1480- 85-Ctgs: Same.
- 1485- 90-Ctgs: Same.
Brachiopod frag. abundant.
Crinoid stems noted.
- 1490- 95-Ctgs: Same with more brown granular limestone and brown dense limestone.
- 1495-1500-Ctgs: Same, limestone with **brachiopod impressions**.
- 1500- 05-Ctgs: Same and greenish gray dense and granular limestone, part fossilif.
Small brachiopods.
- 1505- 10-Ctgs: Light gray and brown granular limestone. Pyrite noted.
- 1510- 14-Ctgs: Same and brown chert.
- 1514- 25-Ctgs: Same.
- 1525- 30-Ctgs: Brown dense and granular limestone; buff-colored dense limestone. Brown chert noted.
- 1530- 34-Ctgs: Brown and buff-colored finely crystalline limestone.
- 1534- 39-Ctgs: Same and white crystalline calcite noted.
- 1539- 50-Ctgs: Same and light gray dense limestone, fossiliferous in part.
- 1550- 55-Ctgs: Light gray dense limestone, brownish gray granular limestone.

- 1555- 59-Ctgs: Same.
1559- 64-Ctgs: Same, with a slight greenish tinge.
1564- 68-Ctgs: Same and brownish gray dense limestone.
1568- 73-Ctgs: Same, and a bluish gray dense limestone.
1573- 76-Ctgs: Same and brownish black granular limestone.
1576-1604-Ctgs: Same.
1604- 09-Ctgs: Same.
Ostracods noted.
1609- 23-Ctgs: Same.
1623- 27-Ctgs: Same and frag. of light gray soft shaly clay, bentonitic ?
1627- 31-Ctgs: Light brownish gray dense limestone, dark brown granular limestone, frag of light gray soft shaly clay, bentonitic ? Light gray dense limestone.
Ostracods.
1631- 35-Ctgs: Same. White crystalline calcite.
1635- 54-Ctgs: Same.
1654- 59-Ctgs: Same.
Shell impressions.
Ostracods.
1659- 64-Ctgs: Same with light bluish gray dense limestone.
1664- 69-Ctgs: Light bluish gray finely granular limestone; light gray and brown dense limestone.
1669- 75-Ctgs: Same, with brown granular limestone.
1675- 80-Ctgs: Same, and dense brown limestone.
1680-1700-Ctgs: Same.
1700- 06-Ctgs: Light bluish gray and brownish gray finely granular limestone.
1706- 12-Ctgs: Same, and brown dense limestone; dark brown granular limestone.
1712- 19-Ctgs: Bluish gray granular limestone, light brown dense limestone.
1719- 30-Ctgs: Same.
1730- 35-Ctgs: Same.
Shell impressions.
1735- 40-Ctgs: Same. Pyrite.
1740- 45-Ctgs: Same.
1745- 50-Ctgs: Light brownish gray finely granular limestone.
1750- 55-Ctgs: Light brownish gray granular and dense limestone; part of limestone carrying **Ostracods**.
1755- 66-Ctgs: Same.
1766- 71-Ctgs: Light bluish gray granular limestone; light brown dense limestone.
1771- 78-Ctgs: Same.
Ostracods.
1778- 87-Ctgs: Same.
1787- 92-Ctgs: Same, and brown granular limestone frag. **Ostracods** becoming more abundant in limestone.
1792-1810-Ctgs: Same.
1810- 15-Ctgs: Light brown and greenish granular limestone.

- 1815- 47-Ctgs: Same.
- 1847- 51-Ctgs: Same, with meduim-grained sand, from above ?
- 1851- 57-Ctgs: Light gray finely granular limestone with small amount of sand.
- 1857- 62-Ctgs: Same, and greenish gray shale and lime.
- 1862- 70-Ctgs: Same, and bluish gray finely granular and dense limestone.
- 1870- 77-Ctgs: Same, and vivid green shale frag.
- 1877- 95-Ctgs: Same.
- 1895-1900-Ctgs: Same, with increasing amount of bluish gray finely granular limestone.
- 1900- 10-Ctgs: Same.
- 1910- 15-Ctgs: Same, with light brown dense limestone.
- 1915- 20-Ctgs: Same.
- 1920- 25-Ctgs: Limestone with more of a bluish tinge; green shale and shaly lime and brown dense limestone.
- 1925- 33-Ctgs: Same and pyrite.
- 1933- 40-Ctgs: Same.
- 1940- 47-Ctgs: Same with more green shale, shale carrying a few rounded quartz grains.
- 1947- 51-Ctgs: Bluish gray and light brown granular limestone, dark green shale and shaly lime, part of shale carrying rounded quartz grains; rounded pitted quartz grains.
- 1951- 57-Ctgs: Light gray and greenish gray finely granular limestone; light brown coarsely crystalline limestone, green shale frag. noted with rounded pitted quartz grains; rounded pitted quartz grains.
- 1957- 60-Ctgs: Cream-colored coarsely crystalline and granular limestone. Occasional rounded frosted quartz grains. Light gray dolomite.
- 1960- 65-Ctgs: Light brown crystalline, granular and dense limestone. Greenish gray granular limestone, green shale, part carrying rounded quartz grains, occasional frosted quartz grains noted. Gray dolomite.
- 1965- 73-Ctgs: Light brown dense and granular limestone, greenish gray granular limestone, green shale frag. Gray dolomite.
- 1973- 78-Ctgs: Light brown dense and granular magnesium ? limestone. White chert noted. Frosted quartz grains noted. Gray dolomite.
- 1978- 85-Ctgs: Same, with more chert and green shale carrying pyrite.
- 1985- 93-Ctgs: Same.
- 1993- 97-Ctgs: Light brown dolomite, grayish granular limestone; white chert and green shale with pyrite.
- 1997-2001-Ctgs: Same.

Summary

Bangor	at	138'
In Hartselle Sandstone	at	247'
Prob. Fort Payne	at	660'
Chattanooga	890-95' to	930'
Silurian	930' to	995'
Ordovician	at	995'
In Knox	at	1997-2001' T.D.

Reynolds Metals Co.
 Connors #1 G 130
 E/2 of NE/4 of NE/4
 Sec. 17—T 5 S—R 8 W
 Lawrence County, Ala.

Elev. 620'
 Began March 15, 1943
 Completed Sept. 9, 1944

17- 20-Ctgs: Medium to fine-gr. sand.

Hartselle

20- 25-Ctgs: Medium-gr. sand.
 25- 30-Ctgs: Same and sandstone, non-calcareous.
 30- 35-Ctgs: Medium to fine-gr. sand and hard fine-gr. ss., non-calcareous.
 35- 40-Ctgs: Same with asphaltic residue. Pyrite noted.
 40- 50-Ctgs: Same.

Hartselle

44- 52-Ctgs: Same and yellow and gray fossiliferous Ls., part oolitic.
 Crinoid stems.

Gasper

52- 55-Ctgs: Same.
 55- 60-Ctgs: Gray and yellow oolitic and crystalline Ls. with **crinoid stems**.
 60- 77-Ctgs: Same.
 82- 88-Ctgs: Gray coarsely crystalline Ls. with **crinoid stems**.
 88- 94-Ctgs: Gray crystalline Ls., fossiliferous; oolitic Ls.
 94- 99-Ctgs: Gray fossiliferous Ls., part oolitic. **Fenestella Bryozoa**.
 Pyrite.
 99- 104-Ctgs: Dark gray and brown Ls.; gray shale; sandstone from above ?
 Crinoid stems.
 104- 10-Ctgs: Same.
 Shell frag.
 Bryozoa.
 Ostracods.
 Crinoid stems.

- 115- 20-Ctgs: Gray shale, brown crystalline Ls., brown claystone.
Ostracods.
Small brachiopods.
- 120- 26-Ctgs: Gray shale, brown Ls., brown claystone; pyrite.
Crinoid stems.
Ostracods.
Gastropods.
- 126- 32-Ctgs: Same with very **small gastropods**.
- 132- 37-Ctgs: Gray shale and gray fossiliferous Ls., brown claystone.
Shell frag.
Pyrite replacement of shells.
Euphemus sp.
- 137- 42-Ctgs: Same.
- 142- 46-Ctgs: Gray soft shale, brown Ls. and claystone from above.
- 146- 51-Ctgs: Same.
- 151- 57-Ctgs: Gray shale, brown Ls. frag. **Shell frag.** Pyrite. **Ostra-**
cods.
- 147- 64-Ctgs: Soft gray shale.
- 164- 70-Ctgs: Brown oolitic Ls. with gray shale. Pyrite replacement of
shells.
Crinoid stems, gastropods, brachiopods, Fenestella Bry-
ozoa.
- 173- 77-Ctgs: Gray and brown Ls., very fossiliferous.
Bryozoa.
Crinoid stems and Brachiopods.
- 177- 80-Ctgs: Same and gray shale.
- 180- 85-Ctgs: Gray shale, crystalline Ls. frag., fossiliferous.
Crinoid stems.
Small gastropods.
Ostracods.
Fenestella Bryozoa.
Other Bryozoa.
- 185- 90-Ctgs: Gray fossiliferous shale and Ls.
- 195- 200-Ctgs: Gray shale and material from above.
- 210- 15-Ctgs: Brown oolitic and crystalline Ls., gray shale, brown clay-
stone.
- 215- 17-Ctgs: Brown crystalline, granular and oolitic Ls., gray shale.
- 220- 24-Ctgs: Gray and brown Ls., part oolitic. Pyrite noted.
- 224- 26-Ctgs: Gray oolitic Ls. Sand Ls. noted. Dark gray shale, and
med.-gr. ss.

Bethel

- 226- 30-Ctgs: Medium-gr. ss., gray lime and sandy lime.
- 230- 35-Ctgs: Light gray medium to fine-gr. sand and ss.

Bethel

- 235- 39-Ctgs: Light gray Ls.

St. Genevieve

- 239- 43-Ctgs: Light gray Ls.
- 243- 48-Ctgs: Same, part oolitic.

248- 52-Ctgs: Same and white chert. Pyrite replacement of **crinoid stems**.

252- 56-Ctgs: Light gray Ls. and chert.

Prob. Tuscumbia

256- 76-Ctgs: Same.

276- 81-Ctgs: Light gray and brown crystalline and granular Ls. with oil stain. Bluish chert.

Tuscumbia

281- 87-Ctgs: Light gray Ls.

287- 93-Ctgs: Same.

298- 303-Ctgs: Gray crystalline Ls. with slight brown stain.
Crinoid stems.

303- 12-Ctgs: Light brown Ls.

312- 31-Ctgs: Same and chert.

331- 37-Ctgs: Gray crystalline Ls. with **crinoid stems**.

343- 52-Ctgs: Same.

352- 56-Ctgs: Light gray crystalline Ls.

356- 67-Ctgs: Same.

367- 72-Ctgs: Same with slight brown stain.

372- 77-Ctgs: Grayish brown crystalline Ls.

377- 82-Ctgs: Grayish brown crystalline and oolitic Ls., fossiliferous.
Crinoid stems.

Endothyra baileyi.

382- 87-Ctgs: Light brown oolitic and crystalline Ls.

Crinoid stems.

Endothyra baileyi.

Small gastropods.

387- 93-Ctgs: Light brown cherty Ls. **Crinoid stems**. Brown shale noted.

393- 400-Ctgs: Light brown Ls. and chert.

400- 04-Ctgs: Light brown Ls. and chert.

404- 10-Ctgs: Light brown Ls., white and brown chert.

410- 15-Ctgs: Light brown crystalline Ls., dark brown shale frag.

415- 20-Ctgs: Light brown Ls.

420- 25-Ctgs: Light brown crystalline Ls.

425- 30-Ctgs: Same.

430- 36-Ctgs: Brownish gray crystalline Ls., fossiliferous. Oolitic Ls. frag.

Ostracods.

Crinoid stems.

436- 42-Ctgs: Same.

442- 50-Ctgs: Light brown crystalline Ls.

450- 56-Ctgs: Light brown crystalline Ls.

456- 60-Ctgs: Brownish gray crystalline Ls., brown and white mottled chert.

460- 65-Ctgs: Light gray and brown crystalline Ls.

465- 70-Ctgs: Same with chert noted.

470- 81-Ctgs: Same.

- 481- 87-Ctgs: Brown Ls. and white and brown chert.

Fort Payne

- 487- 95-Ctgs: Light gray crystalline Ls. and bluish chert.
495- 500-Ctgs: Same and brown Ls.
500- 05-Ctgs: Light gray crystalline Ls. with chert.
505- 11-Ctgs: Light gray crystalline Ls.
Bryozoa noted.
511- 15-Ctgs: Same and chert.
515- 20-Ctgs: Light gray chert and Ls.
520- 24-Ctgs: Bluish chert.
524- 31-Ctgs: Brown Ls. and white chert with oil ? stain and odor.
531- 38-Ctgs: Brown Ls. with oil stain and white chert.
534- 44-Ctgs: Same.
544- 47-Ctgs: Gray Ls. and bluish chert.
547- 50-Ctgs: Brown granular Ls., blue and brown chert.
550- 53-Ctgs: Brown and bluish chert and Ls.
553- 56-Ctgs: Gray Ls. and brown chert.
556- 60-Ctgs: Brown Ls. and chert.
560- 64-Ctgs: Same.
564- 67-Ctgs: Dark grayish brown Ls. and chert.
567- 83-Ctgs: Gray and brown Ls. and chert.
583- 86-Ctgs: Dark grayish brown Ls. and chert.
586- 90-Ctgs: Brown and gray chert.
590- 93-Ctgs: Same.
593- 607-Ctgs: Brown chert and grayish brown Ls.
607- 12-Ctgs: Chert and gray Ls.
612- 16-Ctgs: Same.
616- 22-Ctgs: Bluish gray siliceous lime with small inclusions of glauconite.
622- 27-Ctgs: Same.
627- 33-Ctgs: Same and chert.
633- 40-Ctgs: Same and light gray coarsely crystalline Ls.
Crinoid stems noted.
640- 46-Ctgs: Light gray crystalline Ls. and bluish chert.
Crinoid stems.
646- 51-Ctgs: Black nodular shale, green shale frag. and cherty lime, white lime and chert.
651- 57-Ctgs: Black shale, gray sandy shale, quartzitic sandstone, black nodular shale frag.

Chattanooga

- 657- 61-Ctgs: Brownish black shale and sandy shale, quartzitic sandstone.
661- 67-Ctgs: Same.

Chattanooga

- 667- 73-Ctgs: Same and green and gray fossiliferous Ls., slightly pink-tinged.

Silurian

- 673- 78-Ctgs: Greenish gray Ls. with **crinoid** stems slightly pink-tinged.

- 678- 85-Ctgs: Same.
685- 90-Ctgs: Greenish gray and pink crystalline Ls.
Crinoid stems.
690- 95-Ctgs: Same.
Crinoid stems and other shells.
695- 700-Ctgs: Greenish gray Ls. with pyrite.
700- 07-Ctgs: Brown and green Ls., fossiliferous.
Crinoid stems.
707- 13-Ctgs: Same and reddish brown Ls.
713- 20-Ctgs: Same.
Gastropods noted.
720- 25-Ctgs: Pink, green and gray lime, fossiliferous.
Ostracods noted.
725- 31-Ctgs: Dark red shale and Ls. and pink and green lime.
731- 36-Ctgs: Dark red and pink lime, part crystalline.
736- 41-Ctgs: Same with dark red shale.
741- 50-Ctgs: Reddish brown, pink and green fossiliferous Ls.
Small brachiopods.
750- 57-Ctgs: Same with dark red shale.
757- 65-Ctgs: Greenish gray Ls. with pyrite and glauconite inclusions,
dark red lime and shale.
Small brachiopods and gastropods noted.
765- 70-Ctgs: Same with yellowish crystalline Ls.
770- 75-Ctgs: Pink, yellow and red Ls. with phosphatic inclusions.
Small crinoid stems.
775- 80-Ctgs: Greenish gray hard fine-gr. ss. and pink lime.
780- 87-Ctgs: Greenish gray medium to fine-gr. sand and sandstone and
conglomerate.
787- 93-Ctgs: Greenish gray medium-gr. sand and ss.
793- 800-Ctgs: Gray slightly calcareous shale.
800- 07-Ctgs: Greenish gray to black phosphatic shale, gray crystalline,
fossiliferous Ls.

Ordovician

- 807- 13-Ctgs: Same and phosphatic Ls.
813- 20-Ctgs: Gray and black phosphatic lime and shale.
820- 25-Ctgs: Same, fossiliferous.
825- 30-Ctgs: Same.
832- 38-Ctgs: Gray Ls. with black phosphatic inclusions, fossiliferous.
838- 46-Ctgs: Same.
846- 51-Ctgs: Gray crystalline phosphatic Ls. and shaly lime, fossiliferous.
Coral frag.
851- 57-Ctgs: Gray fossiliferous Ls. with black phosphatic inclusions.
857- 60-Ctgs: Same.
864- 71-Ctgs: Same, very phosphatic.
871- 76-Ctgs: Same, fossiliferous.
876- 82-Ctgs: Light gray crystalline Ls. with phosphatic inclusions and
gray to black shaly lime with phosphatic inclusions.

- 882- 87-Ctgs: Gray crystalline Ls. with phosphatic inclusions.
Coral frag.
- 887- 92-Ctgs: Gray to black phosphatic Ls., fossiliferous.
- 892- 97-Ctgs: Gray phosphatic Ls.
- 897- 905-Ctgs: Gray crystalline Ls. with black phosphatic inclusions,
fossiliferous; black lime with phosphatic inclusions.
- 905- 20-Ctgs: Same.
- 920- 25-Ctgs: Same and dark gray shale.
- 925- 30-Ctgs: Same.
- 926- 30-Ctgs: Gray fine-gr. sandstone and sandy lime, gray soft shale.
- 930- 35-Ctgs: Gray Ls. with black phosphatic inclusions.
- 935- 52-Ctgs: Same and black shale.
- 952- 59-Ctgs: Gray and yellow phosphatic Ls., fossiliferous.
- 959- 66-Ctgs: Same with an increasing amount of phosphatic material.
- 971- 77-Ctgs: Gray and black partly phosphatic Ls. and shale.
- 977- 85-Ctgs: Dark gray lime.
- 985- 93-Ctgs: Dark gray lime and shale, partly phosphatic.
- 993- 99-Ctgs: Gray lime and shaly lime.
- 999-1004-Ctgs: Gray lime with black phosphatic inclusions.
- 1004- 20-Ctgs: Same.
- 1020- 26-Ctgs: Gray phosphatic Ls.
- 1026- 32-Ctgs: Same.
- 1032- 37-Ctgs: Dark gray Ls. and shale.
- 1037- 42-Ctgs: Same and light gray Ls., crystalline calcite.
- 1042- 46-Ctgs: Gray to black Ls., slightly phosphatic.
- 1046- 54-Ctgs: Gray to brown Ls., cherty, and slightly phosphatic.
- 1054- 65-Ctgs: Same and brown chert.
- 1065- 70-Ctgs: Gray and buff-colored Ls.

Black River

- 1070- 75-Ctgs: Buff-colored Ls., partly granular, fossiliferous.
- 1075- 80-Ctgs: Gray and drab-colored dense Ls.
- 1080- 93-Ctgs: Buff-colored dense and slightly granular Ls. and bluish
gray dense Ls.
Shell impressions noted.
- 1093- 96-Ctgs: Same.
- 1092-1105-Ctgs: Greenish gray Ls.
- 1105- 25-Ctgs: Same.
- 1125- 30-Ctgs: Greenish gray and drab-colored Ls.
- 1130- 35-Ctgs: Light brown and gray Ls.
- 1135- 40-Ctgs: Same.
- 1140- 45-Ctgs: Greenish gray and brown dense Ls.
- 1145- 56-Ctgs: Same.
- 1156- 62-Ctgs: Same and granular Ls.
- 1162- 65-Ctgs: Buff-colored dense and granular Ls.
- 1169- 75-Ctgs: Buff-colored and brown dense and granular Ls.
- 1175- 81-Ctgs: Brown and buff-colored dense Ls.
Ostracods.
- 1181- 84-Ctgs: Same.
Ostracods.

- 1184- 94-Ctgs: Same.
1194-1200-Ctgs: Same and granular Ls.
1200- 05-Ctgs: Brown dense Ls.
1205- 10-Ctgs: Same.
1210- 15-Ctgs: Brown and drab-colored dense Ls.
1215- 35-Ctgs: Buff-colored dense and granular Ls.
1235- 43-Ctgs: Light brown dense and granular Ls.
1243- 50-Ctgs: Light brown and drab-colored granular and dense Ls.
1250- 58-Ctgs: Drab-colored and brown dense Ls.
1258- 65-Ctgs: Same.
1265- 75-Ctgs: Same and granular Ls.
1275- 80-Ctgs: Brown dense Ls. and chert.
1280- 87-Ctgs: Brown and drab-colored dense and granular Ls.
1291-1300-Ctgs: Same and greenish gray Ls.
1300- 15-Ctgs: Brown chert and Ls. and bluish chert and granular Ls.
1315- 29-Ctgs: Same.
1329- 46-Ctgs: Gray crystalline Ls.
1346- 60-Ctgs: Brown granular and dense Ls. and chert.
1360- 85-Ctgs: Brown and drab-colored dense Ls.
1385-1423-Ctgs: Brown and greenish gray dense Ls.
1423- 29-Ctgs: Gray lithographic Ls.
1429- 40-Ctgs: Same.
1440- 45-Ctgs: Medium to dark gray lithographic Ls.
1445- 51-Ctgs: Dark gray dense Ls. and greenish gray Ls.
1451- 57-Ctgs: Greenish gray dense Ls. and dark gray dense Ls.
1457- 76-Ctgs: Same.
1476- 87-Ctgs: Same and brownish gray Ls.
1481- 94-Ctgs: Greenish gray and brownish gray dense Ls.
1494-1557-Ctgs: Same.
1557- 62-Ctgs: Medium gray dense Ls.
1562- 68-Ctgs: Same.
1568- 84-Ctgs: Greenish gray dense Ls.
1584- 90-Ctgs: Light greenish gray dense Ls. and brownish gray dense Ls.
1590-1600-Ctgs: Same.
1600- 08-Ctgs: Light greenish gray dense Ls.
1608- 13-Ctgs: Same and brown Ls., slightly fossiliferous.
1613- 18-Ctgs: Light greenish gray dense Ls.
1624- 43-Ctgs: Same and brown Ls.
1643- 82-Ctgs: Same and granular Ls.
1682- 87-Ctgs: Light greenish gray dense Ls. and buff-colored Ls.
1687- 93-Ctgs: Same with granular Ls. frag.
1693- 99-Ctgs: Light gray and greenish gray dense Ls. and small amount of green shale; occasional frosted rounded sand grains noted.
1699-1716-Ctgs: Same.
1716- 21-Ctgs: Gray and greenish gray dense and granular Ls. Rounded frosted quartz grains noted.
1721- 25-Ctgs: Same.

- 1725- 30-Ctgs: Greenish gray finely granular and sucrose Ls. Rounded frosted quartz grains noted.
- 1730- 35-Ctgs: Greenish gray dense and granular Ls., green shale. Rounded frosted quartz grains noted; brown granular Ls.
- 1735- 39-Ctgs: Greenish gray and drab-colored dense Ls. Green shale noted.
- 1739- 54-Ctgs: Same.
- 1754- 63-Ctgs: Gray and greenish gray dense Ls. Greenish sucrose Ls. noted.
- 1763- 68-Ctgs: Same, fossiliferous. Greenish gray dense Ls., green shale noted.
- 1768- 74-Ctgs: Light greenish gray dense Ls. with pyrite.
- 1774- 79-Ctgs: Greenish gray dense and granular Ls., green shale.
- 1779- 83-Ctgs: Greenish gray lime and dark greenish gray shaly lime.
- 1783- 91-Ctgs: Gray and greenish gray dense Ls. with occasional rounded quartz grains; green shale noted.
- 1791- 99-Ctgs: Gray dense Ls. and green shale.
- 1799-1808-Ctgs: Same and greenish gray shaly lime.
- 1808- 12-Ctgs: Gray and greenish gray Ls. and green shale.
- 1812- 19-Ctgs: Light greenish gray dense Ls.
- 1819- 25-Ctgs: Same and granular Ls.
- 1825- 35-Ctgs: Same.
- 1835- 40-Ctgs: Same and greenish gray shale frag.
- 1840- 46-Ctgs: Greenish gray dense Ls., greenish gray granular Ls. and green shale.
- 1846- 51-Ctgs: Greenish dolomitic Ls., gray Ls.
- 1851- 57-Ctgs: Light green sucrose dolomite, green and gray shale.
- 1857- 62-Ctgs: Same and gray dense Ls. and green shale noted.
- 1862- 67-Ctgs: Green sucrose dolomite and green shale.
- 1867- 72-Ctgs: Greenish gray granular Ls. with rounded frosted quartz grains and gray Ls. Green shale.
- 1872- 78-Ctgs: Same and gray dolomite.
- 1882- 85-Ctgs: Same with pyrite and green shale. Occasional rounded frosted quartz grains.
- 1885- 91-Ctgs: Greenish gray dolomite, gray Ls., green shale with pyrite.
- 1891- 94-Ctgs: Same.
- 1894-1900-Ctgs: Gray and green granular Ls. or dolomite with pyrite. Green shale noted.
- 1900- 97-Ctgs: Gray and green granular Ls. with pyrite. Rounded quartz grains noted.
- 1907- 12-Ctgs: Same and rounded frosted quartz grains. Green shale.
- 1912- 18-Ctgs: Same.
- 1918- 23-Ctgs: Green sucrose dolomite with rounded frosted quartz grains. Gray Ls. and dolomite.
- 1923- 28-Ctgs: Green and gray sucrose dolomite with pyrite and rounded frosted quartz grains.
- 1928- 33-Ctgs: Same.
- 1933- 39-Ctgs: Gray and greenish gray dolomite with occasional rounded quartz grains and pyrite inclusions. Dark greenish gray shale and lime.

- 1939- 44-Ctgs: Same.
1944- 50-Ctgs: Same with green shale and gray Ls.
1950- 55-Ctgs: Green dolomitic Ls., green shale with rounded frosted quartz grains, gray lithographic Ls.
1955- 59-Ctgs: Gray dolomite and lithographic Ls., green dolomite from above, green pyritic shale, frosted rounded quartz grains.

Prob. Knox

- 1959- 67-Ctgs: Same with white Ls.
1967- 76-Ctgs: Same.
1976- 81-Ctgs: Gray sucrose dolomite with rounded frosted quartz grains, more sandy than any preceding samples.
1981- 87-Ctgs: Same.
1987- 94-Ctgs: Gray dolomite with rounded frosted quartz grains.
1994-2002-Ctgs: Gray dolomite.
2002- 05-Ctgs: Same.
2005- 09-Ctgs: Light brown dolomite and white chert.
2015- 29-Ctgs: Same.
2029- 37-Ctgs: Buff-colored dolomite.
2037- 41-Ctgs: Same and lithographic Ls.
2041- 46-Ctgs: Light brown and buff-colored dolomite and Ls.
2046- 50-Ctgs: Lithographic buff-colored Ls. and dolomite.
2050- 52-Ctgs: Same with chert.
2055- 60-Ctgs: Gray and buff-colored dolomite and Ls.
2060- 65-Ctgs: Light gray and brown dolomite.
2065- 69-Ctgs: Same.
2069- 75-Ctgs: Same with white chert.
2075- 84-Ctgs: Light gray dolomite.
2084- 88-Ctgs: Bluish gray and tan dolomite.
2088- 92-Ctgs: Buff-colored dolomite.
2092- 96-Ctgs: Cream-colored lithographic Ls.
2096-2100-Ctgs: Gray dolomite with rounded frosted quartz grains. Chert.
2100- 15-Ctgs: Gray finely crystalline dolomite.
2115- 30-Ctgs: Buff-colored lithographic Ls.
2130- 33-Ctgs: Light gray dolomite and Ls.
2133- 38-Ctgs: Gray dense and cherty Ls.
2138- 43-Ctgs: Buff-colored dense Ls.
2143- 48-Ctgs: Same. Chert noted.
2148- 55-Ctgs: Same with dolomite.
2155- 59-Ctgs: Light brown dolomite, chert and Ls. noted.
2162- 66-Ctgs: Light gray dolomite.
2166- 70-Ctgs: Same with Ls. and green shale noted.
2170- 82-Ctgs: Light brown dolomite.
2182-2229-Ctgs: Light gray dolomite.
2229- 36-Ctgs: Same with chert.
2236- 42-Ctgs: Same with Ls.
2242- 47-Ctgs: Same with material from above.
2247- 61-Ctgs: Light greenish gray finely crystalline dolomite.
2266- 71-Ctgs: Gray and brown finely granular dolomite.
2271- 77-Ctgs: Same and buff-colored dense Ls.

- 2277- 88-Ctgs: Buff-colored dense Ls. and gray dolomite.
 2288-2302-Ctgs: Light brown dolomite.
 2302- 40-Ctgs: Light gray dolomite.
 2340- 56-Ctgs: Gray and brown dolomite and Ls. Chert noted.
 2363- 71-Ctgs: Light brown dolomite.
 2371- 75-Ctgs: Same and gray dolomite.
 2375- 80-Ctgs: Same with chert.
 2380-2407-Ctgs: Gray dolomite.
 2407- 13-Ctgs: Same with chert.
 2413- 69-Ctgs: Light gray dolomite.
 2469- 73-Ctgs: Same and Ls.
 2473- 75-Ctgs: Light brown dolomite.
 2475- 84-Ctgs: Same and brown and bluish chert.
 2484- 90-Ctgs: Same with increasing amount of chert.
 2490- 96-Ctgs: Same.
 2496-2503-Ctgs: Same with gray dense Ls.
 2503- 08-Ctgs: Light gray dolomite and smoky chert.
 2508- 17-Ctgs: Same and white chert.
 2517- 23-Ctgs: Light brown dolomite and chert.
 2523- 29-Ctgs: Same and light gray dolomite.
 2529- 37-Ctgs: Brown dolomite.
 2537- 44-Ctgs: Grayish brown dolomite.
 2544- 50-Ctgs: Same. Rounded quartz grains noted.
 2550- 55-Ctgs: Gray dolomite.
 2555- 62-Ctgs: Same and bluish dolomite.
 2562- 68-Ctgs: Light brown dolomite, yellowish shale frag.
 2576- 83-Ctgs: Dolomite with **considerable quantity of rounded frosted quartz grains**, and fine sand grains.
 2583- 93-Ctgs: Gray dolomite with frosted rounded sand grains.
 2595-2600-Ctgs: Same with sand.
 2600- 03-Ctgs: Light gray dolomite with considerable frosted round quartz grains.
 2603- 11-Ctgs: Same.
 2611- 15-Ctgs: Light gray dolomite.
 2615- 21-Ctgs: Light gray dolomite and gray shale.
 2621- 26-Ctgs: Same.
 2626- 34-Ctgs: Light gray dolomite.
 2634- 38-Ctgs: Same.
 2638- 45-Ctgs: Brown dolomite.
 2650- 58-Ctgs: Light gray dolomite.
 2658- 68-Ctgs: Same.
 2668- 73-Ctgs: Light gray dolomite.
 2673-2710-Ctgs: Same.
 2710- 17-Ctgs: Gray and brown dolomite.
 2717- 33-Ctgs: Same.
 2733- 39-Ctgs: Light gray dolomite.
 2739- 45-Ctgs: Same.
 2745- 50-Ctgs: Same and dark gray lime.
 2750- 57-Ctgs: Gray dolomite.
 2757- 67-Ctgs: Gray cherty dolomite.

- 2766- 73-Ctgs: Same.
2773- 80-Ctgs: Light gray sandy dolomite, quartz grains rounded, and abundant.
2780- 86-Ctgs: Gray dolomite. occasional sand grains.
2786- 95-Ctgs: Light gray dolomite, sandy.
2795-2800-Ctgs: Light gray dolomite.
2800- 10-Ctgs: Light gray dolomite, slightly sandy with rounded quartz grains.
2810- 16-Ctgs: Light gray dolomite with considerable sand, rounded frosted quartz grains.
2816- 25-Ctgs: Same.
2825- 32-Ctgs: Gray dolomite with sand.
2832- 40-Ctgs: Gray dolomite, slightly sandy, gray soft shale.
2840- 48-Ctgs: Gray dolomite with chert.
2848- 62-Ctgs: Gray slightly sandy dolomite with chert.
2862- 70-Ctgs: Light gray dolomite, gray shale noted.
2870- 78-Ctgs: Gray cherty dolomite.
2878- 87-Ctgs: Same. Occasional sand grains.
2887- 97-Ctgs: Gray cherty Ls.
2897-2909-Ctgs: Same with occasional rounded frosted sand grains.
2909- 23-Ctgs: Gray dolomite.
2925- 32-Ctgs: Light gray dolomite.
2932- 46-Ctgs: Gray dolomite; white and bluish chert.
2946- 57-Ctgs: Same.
2957- 67-Ctgs: Light brown dolomite, gray soft shale.
2967- 76-Ctgs: Brown dolomite, gray soft shale.
2976- 85-Ctgs: Same with chert.
2985-3002-Ctgs: Same.
3002- 75-Ctgs: Light gray cherty dolomite.
3075- 82-Ctgs: Same with rounded quartz grains.
3082- 88-Ctgs: Light gray dolomite.
3088- 94-Ctgs: Same.
3094-3100-Ctgs: Same with gray hard shale.
3100- 08-Ctgs: Gray dolomite with chert.
3108- 15-Ctgs: Light gray cherty dolomite.
3115- 24-Ctgs: Same. Water in sand at 3119 ft., note on bag.
3124- 62-Ctgs: Same.
3162- 74-Ctgs: White coarsely crystalline dolomite, chert, rounded frosted quartz grains.
3174- 84-Ctgs: Light gray coarsely crystalline dolomite. Chert noted.
3191- 96-Ctgs: Same.
3196-3205-Ctgs: Same with considerable chert.
3205- 13-Ctgs: Same with occasional large rounded frosted quartz grains.
3213- 23-Ctgs: Light gray dolomite with chert.
3223- 29-Ctgs: Light brown coarsely crystalline dolomite, with chert.
3229- 36-Ctgs: Buff-colored dolomite with chert.
3236- 42-Ctgs: Gray coarsely crystalline dolomite, blue and white chert.
3242- 48-Ctgs: Light gray coarsely crystalline dolomite and chert.
3248- 58-Ctgs: Same.
3258- 64-Ctgs: Light gray coarsely crystalline dolomite and chert.

- 3264- 70-Ctgs: Light gray dolomite, bluish and white chert, occasional rounded sand grains.
- 3270- 79-Ctgs: Light gray cherty dolomite with occasional rounded sand grains.
- 3279- 89-Ctgs: Light gray dolomite.
- 3289- 95-Ctgs: Same and chert with rounded quartz grains, and other sand.
- 3295-3302-Ctgs: Light gray and brown dolomite.
- 3302- 25-Ctgs: Same with chert.
- 3325- 33-Ctgs: Same with bluish lime and occasional rounded sand grains.
- 3333- 41-Ctgs: Light gray dolomite and chert, occasional rounded sand grains.
- 3341- 46-Ctgs: Bluish and light gray chert and gray hard lime, occasional large rounded sand grains.
- 3346- 51-Ctgs: Light gray coarsely crystalline dolomite, chert and occasional rounded sand grains.
- 3351- 61-Ctgs: Same.
- 3361- 66-Ctgs: Light gray dolomite.
- 3366- 75-Ctgs: Same with chert.
- 3375- 90-Ctgs: Light bluish gray cherty dolomite.
- 3390- 95-Ctgs: Same. Note on bag: lots of water.
- 3395-3405-Ctgs: Same.
- 3405- 10-Ctgs: Gray cherty and sandy dolomite. Part of sand rounded grains.
- 3410- 16-Ctgs: Light gray slightly cherty dolomite.
- 3416- 20-Ctgs: Same.
- 3420- 25-Ctgs: Cherty dolomite with considerable sand, rounded grains.
- 3425- 35-Ctgs: Light gray cherty dolomite and Ls., occasional rounded sand grains.
- 3435- 45-Ctgs: Light gray dense Ls. and cherty Ls.
- 3440- 50-Ctgs: Same.
- 3450- 55-Ctgs: Light gray fine-gr. cherty dolomite with occasional rounded sand grains.
- 3455- 63-Ctgs: Light gray dolomite.
- 3463- 69-Ctgs: Same.
- 3469- 75-Ctgs: Light gray cherty dolomite.
- 3475- 84-Ctgs: Light gray dolomite, slightly cherty.
- 3484- 89-Ctgs: Light gray cherty dolomite.
- 3489-3500-Ctgs: Light brown dolomite.
- 3500- 10-Ctgs: Gray dolomite.
- 3510- 15-Ctgs: Same with occasional rounded frosted sand grains.
- 3515- 24-Ctgs: Same with considerable chert.
- 3524- 35-Ctgs: Same.
- 3535- 45-Ctgs: Light gray dolomite with chert.
- 3542- 52-Ctgs: Same.
- 3552- 56-Ctgs: Gray soft shale, light gray dolomite with rounded sand grains.
- 3575- 83-Ctgs: Light gray dolomite with chert.
- 3583- 90-Ctgs: Same with rounded sand grains.
- 3590-3600-Ctgs: Same.

- 3600- 10-Ctgs: Light gray dolomite with chert.
3610- 20-Ctgs: Light gray dolomite and chert.
3620- 30-Ctgs: Light gray cherty dolomite with very fine dark inclusions.
3630- 40-Ctgs: Light gray dolomite and chert.
3640- 50-Ctgs: Same.
3650- 60-Ctgs: Same and bluish chert.
3660- 70-Ctgs: Same with occasional rounded frosted sand grains.
3670-3710-Ctgs: Same.
3710- 20-Ctgs: Brownish gray cherty dolomite.
3720- 40-Ctgs: Same.
3740- 50-Ctgs: Gray cherty dolomite.
3750- 60-Ctgs: Gray coarsely crystalline dolomite and chert.
3760- 70-Ctgs: Light gray dolomite and white and bluish chert.
3770- 80-Ctgs: Light gray cherty dolomite.
3780- 90-Ctgs: Same with bluish chert.
3790-3800-Ctgs: Light brown cherty dolomite.
3800- 10-Ctgs: Light gray and cream-colored dolomite, white and bluish chert.
3810- 20-Ctgs: Gray dolomite and cherty dolomite.
3820- 30-Ctgs: Brown dolomite, white and bluish chert.
3830- 50-Ctgs: Same.
3850- 60-Ctgs: Gray dolomite, white and bluish chert.
3860- 70-Ctgs: Same.
3870- 80-Ctgs: Gray dolomite.
3880- 90-Ctgs: Same and considerable chert.
3890-3900-Ctgs: Same.
3900- 10-Ctgs: Gray dolomite and chert.
3910- 20-Ctgs: Grayish brown dolomite and gray soft shale and chert.
3920- 30-Ctgs: Gray dolomite and chert.
3930- 40-Ctgs: Same.
3940- 50-Ctgs: Brown dolomite with chert.
3950- 60-Ctgs: Same with white chert and gray shale.
3960- 70-Ctgs: White and bluish chert.
3970- 80-Ctgs: Gray dolomite, white chert.
3980- 90-Ctgs: Gray dolomite, white chert.
3990-4000-Ctgs: Brown chert and brown dolomite.
4000- 10-Ctgs: Light brown dolomite, white chert.
4010- 20-Ctgs: Gray dolomite and chert.
4020- 30-Ctgs: Gray dolomite and chert.
4030- 40-Ctgs: Same with increasing amount of white and bluish chert.
4040- 50-Ctgs: Same.
4050- 60-Ctgs: Gray coarsely crystalline dolomite and chert.
4060- 90-Ctgs: Same with white and bluish chert.
4090-4100-Ctgs: Same and white and bluish chert.
4100- 10-Ctgs: Same.
4110- 20-Ctgs: Gray coarsely crystalline dolomite and chert.
4120- 30-Ctgs: Same.
4130- 40-Ctgs: Gray dolomite and chert, with occasional rounded sand grains.
4140- 50-Ctgs: Same.

4150-	60-Ctgs:	Gray dolomite and chert.
4160-	70-Ctgs:	Brownish gray dolomite and chert.
4170-	80-Ctgs:	Gray dolomite and chert.
4180-	90-Ctgs:	Gray dolomite and brownish chert.
4190-4200-	Ctgs:	Light gray cherty dolomite.
4200-	10-Ctgs:	Light gray dolomite and chert.
4210-	30-Ctgs:	Cream-colored dolomite and chert.
4230-	40-Ctgs:	Gray finely crystalline dolomite, brown chert noted.
4240-	50-Ctgs:	Gray dolomite and chert.
4250-	60-Ctgs:	Grayish brown dolomite with chert.
4260-	70-Ctgs:	Blue and white chert, gray dolomite.
4270-4310-	Ctgs:	Same.
4310-	20-Ctgs:	Same. Sand grains noted.
4320-	30-Ctgs:	Gray dolomite and chert.
4330-	40-Ctgs:	Gray dolomite.
4340-	50-Ctgs:	Same with blue and white chert. Sand grains noted.
4350-	60-Ctgs:	Gray dolomite and chert.
4360-	70-Ctgs:	Gray dolomite.
4370-	80-Ctgs:	Gray coarsely crystalline dolomite, bluish chert, occasional rounded sand grains noted.
4380-	90-Ctgs:	Light gray dolomite and bluish chert.
4390-4410-	Ctgs:	Same.
4410-	20-Ctgs:	Gray dolomite and chert; rounded sand grains noted.
4420-	30-Ctgs:	Gray cherty dolomite, bluish chert.
4430-	40-Ctgs:	Gray dolomite and Ls. with blue and gray chert.
4440-	50-Ctgs:	Gray coarsely crystalline dolomite and chert.
4450-	60-Ctgs:	Gray and bluish chert, slightly dolomitic.
4460-	70-Ctgs:	Gray cherty dolomite.
4470-	80-Ctgs:	Gray dolomite and bluish chert.
4480-	90-Ctgs:	Gray dolomite and chert.
4490-4500-	Ctgs:	Light gray dolomite and chert and cherty dolomite.

Prob. Knox

Summary

Hartselle	to	44-52'
Gasper	44-52' to	224-26'
Bethel	224-26' to	235'
St. Genevieve	235' to	252'
Tuscumb'a	252' to	481'
Fort Payne	481' to	651'
Chattanooga	651' to	667'
Silurian	667' to	800'
Ordovician	800' to	1955-59'
Knox dolomite	1955-59' to	4500' T.D.

B. E. Davis
Shirley Smith #1
SW/4 of SE/4
Sec. 29—T 7 S—R 6 W
Lawrence County, Ala.

Elev. 660 ft.
Began January 20, 1950
Comp. February 27, 1950

- 7- 12-Ctgs: Gray oolitic and granular limestone. (Rock at 7 ft. below the surface, notation on bag.)

Bangor

- 12- 45-Ctgs: Same.
50- 55-Ctgs: Gray oolitic limestone.
55- 60-Ctgs: Same and granular limestone.
60- 65-Ctgs: Same with gray crystalline and granular limestone.
65- 70-Ctgs: Same.
70- 75-Ctgs: Same.
Crinoid stems.
75- 80-Ctgs: Same.
80- 85-Ctgs: Same. Chert noted.
85- 90-Ctgs: Same with **crinoid stems**.
90- 95-Ctgs: Same with more granular limestone.
95- 100-Ctgs: Same.
100- 05-Ctgs: Same with darker gray limestone.
105- 10-Ctgs: Same.
Bryozoa noted.
110- 15-Ctgs: Same.
115- 20-Ctgs: Gray granular and crystalline limestone.
120- 25-Ctgs: Gray granular and crystalline limestone, fossiliferous.
125- 30-Ctgs: Same.
Ostracods and crinoid stems.
130- 35-Ctgs: Same. Chert noted.
135- 40-Ctgs: Same.
Crinoid stems.
Bryozoa.
140- 45-Ctgs: Same.
155- 60-Ctgs: Medium gray to brownish gray crystalline limestone.
Oolitic limestone noted.
160- 65-Ctgs: Same and dark gray to black shaly lime.
165- 70-Ctgs: Gray limestone with slight brownish stain, dark to brown limestone and black shale.
170- 75-Ctgs: Same.
175- 80-Ctgs: Medium gray dense limestone.
180- 85-Ctgs: Same.
185- 90-Ctgs: Light gray and brownish limestone, slightly chert and slightly oolitic.

- 190- 95-Ctgs: Light gray oolitic limestone.
Ostracods noted.
- 195- 200-Ctgs: Same.
- 200- 05-Ctgs: Same with **crinoid stems**.
Brachiopod frag.
- 205- 10-Ctgs: Same with **Fenestella Bryozoa**.
- 210- 15-Ctgs: Same and granular limestone.
- 215- 20-Ctgs: Brownish gray granular limestone with **Bryozoa** and other
fossils. Oolitic and crystalline limestone.
- 220- 25-Ctgs: Same.
- 225- 30-Ctgs: Same with **crinoid stems**.
- 230- 35-Ctgs: Same with fine-gr. sand.

Hartselle Sandstone

- 235- 40-Ctgs: Fine and medium-gr. sand.
- 240- 45-Ctgs: Fine-gr. sand.
- 245- 50-Ctgs: Same with medium-grained sand and sandstone.
- 250- 55-Ctgs: Same with frag. of hard sandstone.
- 255- 60-Ctgs: Medium-grained sand and sandstone.
- 260- 65-Ctgs: Same with slight oil stain and fine-gr. sand. Chloroform
test: fair oil show.
- 265- 70-Ctgs: Same.
- 270- 75-Ctgs: Same with more oil stain. Chloroform test: slight oil
show.
275-80 Chloroform test: gave strong oil show.
280-85 Very slight oil show.
285-95 Slight oil show.
- 275- 300-Ctgs: Same.
- 300- 05-Ctgs: Same with more oil staining.
- 300- 10-Ctgs: Same. Strong oil show: 300-315 ft.
- 310- 15-Ctgs: Gray fine-grained sand and sandstone, with very slight
oil stain.
- 320- 25-Ctgs: Gray hard fine-gr. sandstone.
- 325- 30-Ctgs: Gray hard medium to fine-grained sandstone and sand.
- 330- 35-Ctgs: Same.
- 335- 40-Ctgs: Same with black shale.

Prob. Gasper

- 340- 55-Ctgs: Same.
- 355- 60-Ctgs: Same with more black shale.
- 360- 65-Ctgs: Black shale and brown claystone.
Small gastropods.
- 365- 70-Ctgs: Black oolitic limestone, brown limestone and black shale.

Gasper

- 370- 75-Ctgs: Same with light brown hard fine-grained dense sandstone.
- 375- 85-Ctgs: Same.
- 385- 90-Ctgs: Gray hard fine-grained sandstone.
- 390- 95-Ctgs: Same with black shale and brown limestone.
- 395- 400-Ctgs: Same with more shale and limestone.
- 400- 05-Ctgs: Same.

- 405- 10-Ctgs: Black oolitic limestone, black shale, brown limestone.
410- 15-Ctgs: Black shale, brown claystone.
415- 20-Ctgs: Same.
420- 25-Ctgs: Same with brown limestone.
Brachiopod frag.
425- 40-Ctgs: Same.
440- 45-Ctgs: Black shale and brown limestone.
445- 50-Ctgs: Light gray crystalline limestone.

St. Genevieve

- 450- 55-Ctgs: Same as preceding.
455- 60-Ctgs: Same and greenish limestone.
460- 65-Ctgs: Same.
465- 70-Ctgs: Same with chert.
470- 75-Ctgs: Same.
Crinoid stems noted.
475- 80-Ctgs: Same.
480- 85-Ctgs: Light gray crystalline limestone.
Crinoid stems.
485- 90-Ctgs: Same. Oolitic limestone noted.
490- 95-Ctgs: Same.
495- 500-Ctgs: Same with light gray chert, slight asphaltic stain.

Prob. Tuscumbia

- 500- 05-Ctgs: Same.
505- 10-Ctgs: Same with bluish chert.
510- 15-Ctgs: Same with an increasing amount of chert and light brownish gray limestone.
515- 20-Ctgs: Light gray and light brownish gray crystalline limestone and bluish chert.
525- 45-Ctgs: Same.
545- 55-Ctgs: Light gray crystalline limestone with chert.
555- 60-Ctgs: Light grayish brown crystalline limestone.
565- 80-Ctgs: Same.
Brachiopod noted.
580- 90-Ctgs: Same with slight asphaltic stain.
590- 95-Ctgs: Same.
Crinoid stems.
595- 620-Ctgs: Same and oolitic limestone.
620- 25-Ctgs: Same.
Endothyra cf. baileyi.
625- 65-Ctgs: Light brownish cherty limestone.
665- 80-Ctgs: Same with more cherty limestone and bluish chert.
680- 85-Ctgs: Same and brown chert.
685- 90-Ctgs: Same and more bluish and brown chert.
690- 95-Ctgs: Same with more chert.
695- 700-Ctgs: Same with bluish and brown chert.
700- 05-Ctgs: Same.
705- 10-Ctgs: Light gray crystalline limestone with bluish chert.
710- 20-Ctgs: Same and brown chert.

720- 25-Ctgs: Same, slightly glauconitic.

Fort Payne

725- 30-Ctgs: Same with increasing amount of chert.
 730- 35-Ctgs: Same, more chert.
 735- 40-Ctgs: Same with more brown chert.
 740- 45-Ctgs: Brown chert and cherty limestone and gray limestone.
 745- 55-Ctgs: Dark gray cherty limestone.
 755- 85-Ctgs: Dark brownish gray cherty limestone.
 785- 800-Ctgs: Same and light gray limestone.
 800- 15-Ctgs: Same with more light gray limestone.
 815- 35-Ctgs: Same with greenish limestone and chert.
 835- 50-Ctgs: Light gray and greenish gray limestone with chert.
 850- 55-Ctgs: Light gray limestone, greenish limestone, brown limestone and chert, light gray and bluish chert.
 855- 70-Ctgs: Same.
 870- 75-Ctgs: Same with green phosphatic ? shale and lime and dark brownish black shale.
 875- 80-Ctgs: Brownish black shale with pyrite and hard fine-gr. sandstone.

Chattanooga

880- 90-Ctgs: Same.
 890- 95-Ctgs: Same and sandy shale.
 895- 900-Ctgs: Brownish black shale and hard fine-gr. sandstone.
 900- 05-Ctgs: Greenish gray limestone.

Silurian

905- 10-Ctgs: Same.
 910- 15-Ctgs: Same with **crinoid stems**.
 915- 20-Ctgs: Same.
 920- 25-Ctgs: Greenish limestone with very fine pyrite.
 Crinoid stems.
 925- 30-Ctgs: Same.
 930- 35-Ctgs: Yellowish and pink limestone, dark red shale with mica.
 935- 40-Ctgs: Yellowish crystalline limestone, slightly glau., green shale with **crinoid stems**.
 940- 45-Ctgs: Same with pink limestone and red shale, green shaly lime.
 945- 50-Ctgs: Yellowish and pink limestone, with glauconite and dark red shale.
 950- 55-Ctgs: Same.
 Crinoid stems.
 955- 60-Ctgs: Same.
 960- 65-Ctgs: Dark gray to black limestone and shaly lime with phosphatic inclusions. Black shale.

Ordovician

965- 75-Ctgs: Same.
 975- 80-Ctgs: Light gray and black limestone with black phosphatic inclusions.
 Shell frag.
 980- 85-Ctgs: Same, very fossiliferous.

- 985-1000-Ctgs: Same.
1000- 05-Ctgs: Light gray and black limestone with abundant phosphatic inclusions.
1005- 15-Ctgs: Same.
1015- 20-Ctgs: Same with phosphatic replacement of very **small gastropods**.
1020- 35-Ctgs: Same.
1030- 40-Ctgs: Light and dark gray limestone with black asphaltic inclusions, fossiliferous.
1040- 60-Ctgs: Same.
Brachiopods noted.
1060-1120-Ctgs: Same as preceding.
1120- 60-Ctgs: Same, very phosphatic.
1165- 75-Ctgs: Dark gray to black limestone with small black phosphatic ? inclusions, and dark brownish gray very dense limestone.
1175- 80-Ctgs: Same with lighter gray limestone.
1180- 95-Ctgs: Same with light gray limestone.
1195-1205-Ctgs: Dark brownish gray limestone.
1205- 15-Ctgs: Same with light brown crystalline limestone.
1215- 25-Ctgs: Light brown crystalline limestone.
1225- 40-Ctgs: Same with dense limestone, fossiliferous.
1240- 45-Ctgs: Light brown dense and crystalline limestone.
1245- 50-Ctgs: Gray granular limestone and soft bentonitic ? shale.
1250- 55-Ctgs: Same and frag. of soft shale, bentonitic ?
1255- 60-Ctgs: Same.
1260- 65-Ctgs: Same and light brown crystalline limestone.
1265- 70-Ctgs: Same.
1270- 80-Ctgs: Gray granular limestone.
1280- 85-Ctgs: Light brown crystalline and dense limestone.
1285- 95-Ctgs: Same.
1295-1305-Ctgs: Same with more dense limestone.
1305- 15-Ctgs: Same and granular limestone.
1315- 20-Ctgs: Brown granular limestone and light brown crystalline and dense limestone.
1320- 25-Ctgs: Medium brownish gray dense limestone.
1325- 40-Ctgs: Medium to dark gray dense limestone.
1340- 45-Ctgs: Medium and light brown dense limestone.
1345- 55-Ctgs: Light brown dense and crystalline limestone.
1355- 65-Ctgs: Same and medium brown limestone.
1365- 70-Ctgs: Buff-colored dense and crystalline limestone.
1370- 80-Ctgs: Same.
1380- 85-Ctgs: Light brown dense granular and crystalline limestone.
1385- 90-Ctgs: Same.
1390- 95-Ctgs: Same with grayish limestone.
1395-1400-Ctgs: Buff-colored and light gray crystalline limestone.
1405- 10-Ctgs: Same with gray limestone.
1410- 15-Ctgs: Same.
1415- 20-Ctgs: Buff-colored crystalline limestone.
1420- 35-Ctgs: Same.

1435-	40-Ctgs:	Buff-colored and light gray crystalline limestone.
1440-	60-Ctgs:	Same.
1460-	65-Ctgs:	Light brown crystalline limestone.
1465-	70-Ctgs:	Same and granular limestone.
1470-	75-Ctgs:	Same with more granular limestone, fossiliferous.
1475-	80-Ctgs:	Same.
1480-	85-Ctgs:	Medium gray granular limestone, fossiliferous.
1485-	90-Ctgs:	Same.
1490-	95-Ctgs:	Same with brown dense limestone and chert.
1495-1510-	Ctgs:	Same.
1510-	15-Ctgs:	Gray and brown granular and dense limestone.
1515-	30-Ctgs:	Same.
1530-	35-Ctgs:	Light gray dense limestone, and grayish brown dense and granular limestone.
1535-	55-Ctgs:	Same.
1555-	60-Ctgs:	Same with dark gray limestone.
1560-	70-Ctgs:	Same.
1570-	75-Ctgs:	Light and dark gray dense limestone and light brown dense limestone.
1575-	80-Ctgs:	Same.
1580-	85-Ctgs:	Dark gray and brownish dense limestone.
1585-1600-	Ctgs:	Same.

Summary

Bangor	at	7 - 12'
Hartselle	at	230 - 35'
Gasper & St. Genevieve		340 - 500'±
Tuscumbia & Fort Payne		500'± - 875'
Chattanooga		875 - 900'
Silurian		900 - 960'
Ordovician		960 - 1600'

¹T. D 1603 ft.

LIMESTONE COUNTY

Shaw, Johnson & Thompson
Birmingham Trust & Savings #1
NW/4 of NE/4 of NW/4
Sec. 15—T 2 S—R 4 W
Limestone County, Ala.

Elev. 774.409 feet.
Completed, 1941

10- 30-Ctgs: Cream-colored chert.

Fort Payne

30- 32-Ctgs: Same, part with cavities.
Crinoid stems noted.

32- 33-Ctgs: Same and milky chert with coral, frag. of bluish gray crystalline limestone.

35- 40-Ctgs: Same with increasing amount of bluish gray finely crystalline lime and chert.

40- 45-Ctgs: Same.

45- 50-Ctgs: Bluish gray finely crystalline limestone with bluish gray chert, and cream-colored chert.

50- 55-Ctgs: Same and frag. of soft green shale.

55- 60-Ctgs: Same.

60- 65-Ctgs: Same and greenish gray lime. Chert.

65- 70-Ctgs: Green limestone and shaly lime with **crinoid stems**; gray limestone, **crinoid stems**; pyrite inclusions; occasional black inclusions, phosphatic ?

New Providence

70- 75-Ctgs: Gray and greenish shale; gray limestone. Pink **crinoid stems**; pyrite; green shale; black phosphatic ? nodules.

75- 80-Ctgs: Greenish gray shale with pyrite; black concretionary material, phosphatic ?
Pink limestone frag.
Pink crinoid stems.

80- 85-Ctgs: Dark greenish gray calcareous shale; light gray crystalline limestone, fossiliferous, with pyrite; black phosphatic concretions. Dark gray shale with black phosphatic ? inclusions.

85- 90-Ctgs: Black and gray limestone with black phosphatic concretions, brown finely crystalline limestone.

Ordovician

90- 95-Ctgs: Same.
Small brachiopods.
Shell frag.

95- 100-Ctgs: Greenish gray lime and shaly lime. **Coral** and **Bryozoa** frag. Black phosphatic inclusions in limestone.

- 100- 05-Ctgs: Gray and black limestone with small black inclusions. An abundance of phosphatic ? casts of small **gastropods**. Coral and Bryozoa frag.
- 110- 15-Ctgs: Light gray crystalline limestone; light green limestone; dull reddish brown limestone. Pyrite. Dark gray shale frag. Coral frag.
- 115- 20-Ctgs: Light green limestone, light gray crystalline limestone; slightly reddish brown limestone. Coral frag.
- 120- 25-Ctgs: Same and gray shaly lime.
- 125- 30-Ctgs: Light gray crystalline limestone; dark gray to black crystalline limestone, small black inclusions.

Ordovician

- 130- 35-Ctgs: Dark gray to black crystalline fossiliferous limestone, with **coral embedded**. Dark gray shale. Black inclusions in limestone. Shell frag.
- 135- 40-Ctgs: Light gray limestone with small black inclusions and glauconite ?; green shale and shaly lime, from above ? Coral frag.
- 140- 45-Ctgs: Light gray crystalline limestone, dark gray to black fossiliferous, crystalline limestone with black inclusions. Gray shale. Coral frag.
- 145- 50-Ctgs: Light and dark gray crystalline, fossiliferous limestone. **Coral frag. abundant**. Gray shale. Shell frag.
- 150- 55-Ctgs: Gray to black limestone. **Shell frag.** Pyrite inclusions. Coral frag.
- 155- 60-Ctgs: Gray to black crystalline limestone and shaly lime, very fossiliferous. Frag. of **corals** and **brachiopods**. Black inclusions noted in shaly lime.
- 160- 65-Ctgs: Light gray crystalline limestone; green shale frag. Pyrite.
- 165- 70-Ctgs: Gray and black crystalline limestone, black and greenish gray shale. **Coral frag.** Reddish and pinkish limestone.
- 170- 80-Ctgs: Same.
- 180- 85-Ctgs: Same and light brown crystalline limestone frag.
- 185- 90-Ctgs: Dull greenish gray limestone; frag. of light brown crystalline limestone.
- 190- 95-Ctgs: Gray finely crystalline limestone.
- 195- 200-Ctgs: Gray to black crystalline limestone; green shale.
- 200- 05-Ctgs: Same and **coral frag.**
- 205- 10-Ctgs: Gray crystalline limestone.
- 210- 15-Ctgs: Light to dark gray crystalline and fossiliferous limestone, part with small black inclusions. Bryozoa ?
- 215- 20-Ctgs: Same and greenish gray lime.

- 220- 25-Ctgs: Same, very fossiliferous.
Small brachiopods.
Bryozoa ?
Coral frag.
- 225- 30-Ctgs: Light gray and greenish gray limestone, part with small black inclusions.
- 230- 35-Ctgs: Gray to black limestone, with small black inclusions and inclusions of pyrite.
Shells.
- 235- 40-Ctgs: Gray to black limestone, fossiliferous with small black inclusions.
Small brachiopods.
- 240- 45-Ctgs: Same and brown limestone frag.
Bryozoa ?
Shell frag.
Coral frag.
- 245- 50-Ctgs: Gray fossiliferous limestone.
- 250- 55-Ctgs: Same and shaly lime.
Shells abundant.
- 255- 60-Ctgs: Gray fossiliferous limestone with small black inclusions and gray shaly lime.
Small brachiopods.
- 260- 65-Ctgs: Gray to black crystalline limestone with small black inclusions, and dark gray calcareous shale.
- 265- 70-Ctgs: Same.
Shells and shell impressions.
- 270- 75-Ctgs: Same.
- 275- 80-Ctgs: Light gray fossiliferous limestone with small black inclusions.
- 280- 85-Ctgs: Black and gray limestone with small black inclusions, dark gray shale.
Shell frag.
Coral frag.
- 285- 90-Ctgs: Same. Pyrite.
Brachiopods.
- 290- 95-Ctgs: Light gray crystalline limestone with small black inclusions, phosphatic ?
- 295- 300-Ctgs: Gray and brownish dense fossiliferous limestone, brown chert, black shaly lime.
Ostracods.
- 300- 05-Ctgs: Same. Brown crystalline limestone and greenish shale.
- 305- 10-Ctgs: Gray and brownish gray crystalline limestone, fossiliferous; bluish gray chert. Brownish dense limestone.
Small brachiopods and shell frag.
Ostracods.
- 310- 15-Ctgs: Gray crystalline limestone.
Brachiopod frag. abundant.

- 315- 20-Ctgs: Same and brown limestone and frag. of greenish gray shale.
Brachiopod frag. abundant.
- 320- 25-Ctgs: Gray crystalline limestone, fossiliferous.
- 325- 30-Ctgs: Same and soft brownish black shale.
- 330- 35-Ctgs: Gray limestone with dark inclusions.
Bryozoa ?
- 335- 40-Ctgs: Gray limestone with small black inclusions.
- 340- 45-Ctgs: Light gray crystalline, fossiliferous limestone, slightly sandy, with small black inclusions and dark gray shale frag.
- 345- 50-Ctgs: Same.
- 350- 55-Ctgs: Dark gray to black shale with mica; gray limestone with phosphatic material.
- 355- 60-Ctgs: Light gray limestone with black phosphatic inclusions, also pyrite. Bryozoa and other fossils fragments.
- 360- 65-Ctgs: Same.
- 365- 70-Ctgs: Same and small **brachiopods**.
- 370- 75-Ctgs: Slightly greenish gray shaly lime and gray limestone.
- 375- 80-Ctgs: Slightly greenish gray limestone, some shaly lime. Brownish gray crystalline limestone.
Bryozoa.
Brachiopod frag.
- 380- 85-Ctgs: Light greenish gray limestone; dark reddish brown limestone. Pyrite.
- 385- 90-Ctgs: Light gray and brown finely crystalline limestone. Pyrite.
- 390- 95-Ctgs: Same.
- 395- 400-Ctgs: Drab-colored finely crystalline limestone, crystalline calcite.
- 400- 05-Ctgs: Same and brown granular limestone.
- 405- 10-Ctgs: Same and frag. of soft green shale.
- 410- 15-Ctgs: Same and gray granular limestone.
- 415- 20-Ctgs: Drab-colored dense limestone, brown granular limestone.
- 420- 25-Ctgs: Gray dense and granular limestone with pyrite inclusions; brown granular and crystalline limestone, fossiliferous.
- 425- 30-Ctgs: Gray granular and dense limestone.
- 430- 35-Ctgs: Gray dense and crystalline limestone.
Small brachiopod noted.
- 435- 40-Ctgs: Gray coarsely crystalline limestone.
Fossils noted.
- 440- 45-Ctgs: Same.

Summary

Fort Payne	to.....	65'
New Providence	65' to.....	85'
Ordovician	85' to.....	445'

Shaw, Johnson & Thompson

Glaze #1

Center of NW/4 of NW/4 of SW/4

Sec. 7—T 3 S—R 3 W

Limestone County, Ala.

Elev. 691.03 ft.

Completed, 1941

0- 10-Ctgs: Weathered chert. Masses of quartz crystals.

Fort Payne

10- 20-Ctgs: Same.

20- 30-Ctgs: Same and white chert.
Crinoid stems.

30- 40-Ctgs: White chert; weathered chert.
Crinoid stems.

40- 50-Ctgs: White chert; masses of quartz crystals.
Crinoid stems.

50- 70-Ctgs: Same.

70- 80-Ctgs: Same.
Frag. of coral.
Crinoid stems.

80- 90-Ctgs: Light gray to greenish gray limestone with **crinoid stems**.
Cream colored chert from above ?

New Providence

90- 95-Ctgs: Same, with light green limestone and shaly lime.
Crinoid stems abundant.

95- 100-Ctgs: Gray hard coarse-gr. sandstone frag. with phosphatic ?
nodules. Brown quartzitic sandstone, part like conglomerate; pyrite. Black shale. Spores noted.

Chattanooga

100- 05-Ctgs: Black shale frag.; greenish gray calcareous shale with
pyrite in quantity; phosphatic material noted.

105- 10-Ctgs: Light gray limestone and green crystalline, fossiliferous
limestone; and dark greenish shaly lime; black phosphatic
inclusions.

110- 15-Ctgs: Green and gray limestone, coarse-grained with somewhat
the appearance of conglomerate; pink-tinged limestone
and **crinoid stems**; yellow and brown inclusions. Pyrite.
Black phosphatic material.

Silurian

115- 20-Ctgs: Gray and pink crystalline limestone, with pyrite inclu-
sions. **Crinoid stems**. Chert.

120- 25-Ctgs: Pink and gray limestone; gray fossiliferous limestone
with black phosphatic ? inclusions.
Brachiopod frag.

- 125- 30-Ctgs: Light gray crystalline limestone. Dark gray fossiliferous limestone with black phosphatic inclusions.
Brachiopod frag.

Ordovician

- 130- 35-Ctgs: Medium gray granular and crystalline limestone. Black phosphatic inclusions noted.
135- 40-Ctgs: Same and light greenish gray finely crystalline limestone; frag. of black lime with phosphatic nodules; pink and green lime from above ?
140- 45-Ctgs: Light greenish gray granular limestone with pyrite.
145- 50-Ctgs: Light gray and greenish crystalline limestone and pink tinged limestone.
150- 55-Ctgs: Light and dark gray crystalline limestone, fossiliferous, part pink tinged.
155- 60-Ctgs: Light and dark gray crystalline limestone with small black inclusions.
160- 65-Ctgs: Same and frag. of light green granular limestone.
165- 70-Ctgs: Light greenish gray granular limestone.
170- 75-Ctgs: Light gray crystalline limestone.
175- 80-Ctgs: Same with dark gray limestone and small black inclusions.
180- 85-Ctgs: Light and dark gray crystalline limestone.
Shell frag.
Frag. Coral.

Trenton

- 185- 90-Ctgs: Medium gray granular and shaly limestone; light gray crystalline limestone.
Shell frag.
190- 95-Ctgs: Brownish gray crystalline limestone with small black inclusions, fossiliferous.
Brachiopod impressions.
195- 200-Ctgs: Same and gray crystalline limestone with small black inclusions.
200- 05-Ctgs: Same with dark gray granular limestone and dark brown finely crystalline limestone.
205- 10-Ctgs: Same.
210- 15-Ctgs: Gray and brown granular limestone and shaly lime.
215- 20-Ctgs: Light and dark gray granular limestone and shaly lime; brown crystalline limestone; light greenish gray granular limestone.
220- 25-Ctgs: Light to dark gray crystalline, fossiliferous limestone with black inclusions.
Coral frag.
Ostracods.
225- 30-Ctgs: Same.
230- 35-Ctgs: Light and dark gray crystalline limestone.
Coral frag.
235- 40-Ctgs: Medium slightly greenish gray finely granular limestone, part with dark streaks; light brown crystalline limestone.
Shell frag.

- 240- 45-Ctgs: Light and dark gray crystalline limestone with small black inclusions.
- 245- 50-Ctgs: Same and gray finely granular limestone.
- 250- 55-Ctgs: Medium gray crystalline limestone and greenish gray granular limestone, fossiliferous, part with black phosphatic inclusions.
Coral frag.
Phosphatic casts of shells.
- 255- 60-Ctgs: Light to dark gray crystalline limestone with black phosphatic inclusions; gray granular limestone with phosphatic inclusions.
- 260- 65-Ctgs: Same with increasing amount of phosphatic material; brown crystalline limestone.
Ostracods.
Bryozoa ?
- 265- 70-Ctgs: Gray to black crystalline limestone with phosphatic material, fossilif. Brown crystalline limestone.
- 270- 75-Ctgs: Brownish gray crystalline and granular limestone. Black phosphatic inclusions.
Coral frag. noted.
- 275- 80-Ctgs: Light gray limestone, and dark gray crystalline limestone, fossilif.
- 280- 85-Ctgs: Light to medium gray crystalline, fossiliferous limestone with black inclusions.
- 285- 90-Ctgs: Gray coarsely crystalline limestone, fossiliferous, and gray finely granular limestone with black inclusions.
- 290- 95-Ctgs: Same.
Small brachiopod.
- 295- 300-Ctgs: Gray crystalline, fossiliferous limestone with black inclusions.
- 300- 95-Ctgs: Same and gray finely granular limestone.
- 305- 10-Ctgs: Gray and brown crystalline and granular limestone, fossiliferous.
Ostracods.

Black River

- 310- 15-Ctgs: Same and brown cherty limestone.
- 315- 20-Ctgs: Same. Phosphatic material noted.
- 320- 25-Ctgs: Light brown crystalline limestone, fossiliferous, with dark phosphatic inclusions; light greenish gray granular limestone.
- 325- 30-Ctgs: Brown and light gray finely crystalline limestone.
Ostracods.
- 330-31½-Ctgs: Same.

Summary

Fort Payne and New Providence	0'	to	95'
Chattanooga	95'	to	105'
Silurian	105'	to	125'
Ordovician	125'	to	331' T.D.

Shaw, Johnson and Thompson

Carter #1

SE/4 of SE/4 of SW/4

Sec. 35—T 2 S—R 5 W

Limestone County, Ala.

Completed, 1941

- 1- 10-Ctgs: Red, brown and yellow chert; sand; quartz crystals noted.
Crinoid stems.

Fort Payne

- 10- 20-Ctgs: Same, with more **crinoid stems**.
20- 25-Ctgs: Light bluish gray finely granular limestone. Milky chert and quartz.
25- 30-Ctgs: Bluish gray granular and chert limestone and increasing amount of milky chert.
30- 35-Ctgs: Bluish gray cherty, dolomite ? limestone; white and cream-colored chert.
35- 40-Ctgs: Same.
40- 45-Ctgs: Same with gray calcareous shale.
45- 50-Ctgs: Light bluish gray cherty limestone; blue chert; light gray finely granular limestone; gray shale.
50- 55-Ctgs: Same with increasing amount of blue chert.
55- 60-Ctgs: Bluish gray chert and finely granular limestone and blue chert; gray shaly lime.
60- 65-Ctgs: Same with increasing amount of bluish to dark chert; gray shale. Pyrite.
65- 70-Ctgs: Bluish gray finely granular cherty limestone and shaly lime with pyrite.
70- 75-Ctgs: Same with dark chert and light bluish gray chert. Dark gray shale noted.
75- 80-Ctgs: Light bluish gray finely granular limestone.
80- 85-Ctgs: Same and cherty limestone. Dark brownish chert and blue chert. Gray shale noted.
85- 90-Ctgs: Light bluish gray finely granular limestone. Chert noted. Gray shale noted.
90- 95-Ctgs: Bluish gray finely granular and cherty limestone and chert. Pyrite noted.
95- 100-Ctgs: Same but with less chert.
100- 05-Ctgs: Same.
105- 10-Ctgs: Same and gray calcareous shale.
110- 15-Ctgs: Same, with considerable chert.
115- 20-Ctgs: Light gray crystalline limestone, fossiliferous; chert, gray shale, pyrite, gray limestone fragment with glauconite. Crinoid stems noted.
120- 25-Ctgs: Black shale with spores. Pyrite. Medium to coarse-grained sand and sandstone with black phosphatic inclusions. Light gray limestone from above ? Chert.

Chattanooga Shale

- 125- 30-Ctgs: Gray shale, greenish gray shale and limestone, light gray limestone with black phosphatic inclusions. Pyrite. Small **gastropods** replaced by phosphatic material.
- 130- 35-Ctgs: Light green and gray finely crystalline limestone, some of limestone with green streaks; green shale with sand and phosphatic inclusions.
- 135- 40-Ctgs: Gray coarsely crystalline limestone, fossiliferous, part with small black inclusions.
Ostracods.
Coral frag.
Bryozoa ?
Brachiopods.

Probably Ordovician

- 140- 45-Ctgs: Gray to black crystalline and granular limestone, part with phosphatic inclusions. Pyrite.
- 145- 50-Ctgs: Same.
Shell frag.
- 150- 55-Ctgs: Gray crystalline and granular limestone.
- 155- 60-Ctgs: Same, and very light gray crystalline limestone with black phosphatic inclusions.
- 160- 65-Ctgs: Light gray crystalline limestone, fossiliferous, with black phosphatic inclusions and medium gray limestone with black phosphatic inclusions.
- 165- 70-Ctgs: Same.
- 170- 75-Ctgs: Gray crystalline, fossiliferous limestone, black phosphatic inclusions.
Bryozoa ?
- 175- 80-Ctgs: Same. Pyrite.
- 180- 85-Ctgs: Gray crystalline limestone with black inclusions and pyrite.
- 185- 90-Ctgs: Same, fossiliferous.
- 190- 95-Ctgs: Same.
- 195- 200-Ctgs: Brown crystalline limestone, fossiliferous, black inclusions noted.
- 200- 05-Ctgs: Same and gray limestone.
- 205- 10-Ctgs: Greenish gray finely crystalline limestone and brown crystalline limestone.
- 210- 15-Ctgs: Light and dark gray finely crystalline limestone.
- 215- 20-Ctgs: Same, fossiliferous and with black inclusions.
Brachiopod frag. and impressions abundant.
- 220- 25-Ctgs: Same.
Ostracods.
- 225- 30-Ctgs: Gray crystalline limestone, fossiliferous.
Bryozoa ?

Ordovician

- 230- 35-Ctgs: Gray and brown crystalline limestone, part with black inclusions, part fossiliferous. Pyrite. Gray shaly lime with black inclusions.

- 235- 40-Ctgs: Gray crystalline limestone and gray shaly lime with black inclusions.
Ostracods noted.
- 240- 45-Ctgs: Same. Pyrite.
- 245- 50-Ctgs: Same and brown crystalline limestone.
- 250- 55-Ctgs: Same and greenish gray lime with small black inclusions.
- 255- 60-Ctgs: Gray to black crystalline and shaly lime with black inclusions; greenish gray shaly lime.
- 260- 70-Ctgs: Same.
- 270- 75-Ctgs: Same with increasing amount of black inclusions.
- 275- 80-Ctgs: Gray to black crystalline limestone, black phosphatic inclusions.
Shell frag.
- 280- 85-Ctgs: Same.
Brachiopod frag.
- 285- 90-Ctgs: Light gray and greenish gray crystalline limestone with pink crystals throughout the limestone. Black inclusions noted.
- 290- 95-Ctgs: Light gray coarsely crystalline limestone with occasional pink crystals. Pyrite noted.
- 295- 300-Ctgs: Light gray crystalline limestone.
- 300- 05-Ctgs: Grayish brown crystalline limestone, fossiliferous. Black shale from above with *Lingula* sp.
- 305- 10-Ctgs: Gray crystalline limestone with black inclusions, fossiliferous.
- 310- 15-Ctgs: Gray crystalline and granular limestone with black inclusions, fossiliferous.
- 315- 20-Ctgs: Gray crystalline limestone with black inclusions.
Shell frag. abundant.
- 320- 25-Ctgs: Gray crystalline limestone with black inclusions, fossiliferous.
- 325- 30-Ctgs: Gray crystalline limestone with black inclusions, fossiliferous.
Brachiopod frag. and impressions abundant.
- 330- 35-Ctgs: Same.
- 335- 40-Ctgs: Same.
Bryozoa and coral frag. noted.
- 340- 45-Ctgs: Same with black material increasing.
- 345- 50-Ctgs: Gray to black limestone with small black phosphatic inclusions.
- 350- 55-Ctgs: Dark gray granular limestone with fine black inclusions, partly sandy.
- 355- 60-Ctgs: Dark gray granular limestone with fine black inclusions, slightly sandy.
- 360- 65-Ctgs: Gray sandy limestone with small black inclusions.
- 365- 85-Ctgs: Same.
- 385- 90-Ctgs: Same and brown sandy limestone.
- 390- 95-Ctgs: Same.

- 395- 400-Ctgs: Same and light gray and grayish brown fossiliferous limestone.
- 400- 05-Ctgs: Light gray coarsely crystalline limestone with small black inclusions.
Bryozoa.
- 405- 10-Ctgs: Brown granular and buff-colored limestone.
- 410- 30-Ctgs: Same.
- 430- 35-Ctgs: Same, part of limestone with brown stain.
- 435- 40-Ctgs: Light brown and buff-colored coarsely crystalline limestone.
- 440- 45-Ctgs: Gray crystalline limestone.
- 445- 50-Ctgs: Same.
- 450- 55-Ctgs: Gray granular and crystalline limestone.
- 455- 60-Ctgs: Brown and gray crystalline and granular limestone.
- 460- 65-Ctgs: Same.
- 465- 70-Ctgs: Brown crystalline and granular limestone.
- 470- 75-Ctgs: Brown and gray limestone.
Brachiopod frag.
- 475- 80-Ctgs: Gray and reddish brown limestone.
- 480- 85-Ctgs: Gray and brown crystalline and granular limestone.
- 485- 90-Ctgs: Same.
- 490- 95-Ctgs: Light brown crystalline limestone with a somewhat weathered appearance.
- 495- 500-Ctgs: Gray dense and granular limestone, reddish brown granular and dense limestone.
- 500- 05-Ctgs: Gray dense and granular limestone.
Brachiopod frag.
- 505- 10-Ctgs: Same.
- 510- 15-Ctgs: Gray and brown limestone.
Brachiopod frag.
- 515- 20-Ctgs: Same.

Summary

Fort Payne 0' to 120'

Chattanooga Shale at 120-25'

Ordovician 135' to 515'

MADISON COUNTY

W. W. Newman

Nichols #1

135' W and 65' S of NE cor NW/4 of NE/4

Sec. 2—T 6 S—R 2 E

Madison County, Ala.

Elev. 640 ft. $\pm$

Began December 29, 1939

Completed October, 1940

- 15- 20-Ctgs: Light gray crystalline limestone; drab-colored finely granular limestone weathered. Brown chert noted.
Crinoid stems.
- 20- 25-Ctgs: Same and gray granular limestone and greenish gray shaly lime.
Crinoid stems abundant; pentagonal form noted.
Bryozoa.

Bangor

- 25- 30-Ctgs: Gray crystalline limestone and greenish gray shaly lime.
Fenestella Bryozoa frag., other Bryozoa.
Crinoid stems.
Brachiopods.
- 30- 35-Ctgs: Grayish brown oolitic limestone.
Fenestella Bryozoa.
Ostracods noted.
- 35- 40-Ctgs: Same and brown and smoky chert.
- 40- 45-Ctgs: Gray crystalline limestone; chert noted.
- 45- 50-Ctgs: Gray oolitic limestone.
- 50- 55-Ctgs: Grayish brown oolitic and crystalline limestone and green shale frag.
Brachiopod frag.
- 55- 60-Ctgs: Same, with chert and material from above.
- 60- 65-Ctgs: Same.
Crinoid stems chalcedonized.
- 65- 70-Ctgs: Same.
- 70- 75-Ctgs: Light gray crystalline limestone. Chert.
Crinoid stems.
- 75- 80-Ctgs: Greenish gray limestone and shaly lime with **Fenestella Bryozoa. Brachiopod.** Oolitic limestone noted.
Prob. Zaphrentis spinulosum.
- 80- 85-Ctgs: Same.
Elliptical crinoid stems.
- 85- 90-Ctgs: Same.
Fenestella Bryozoa.
- 90- 95-Ctgs: Greenish gray finely granular limestone.
- 95- 100-Ctgs: Same and greenish gray shale with **crinoid stems**; oolitic limestone.
Bryozoa.

- 100- 05-Ctgs: Brownish gray crystalline limestone; greenish gray shale with **Bryozoa**.
105- 10-Ctgs: Light gray coarsely crystalline and oolitic limestone.
110- 15-Ctgs: Same with greenish gray fossiliferous shale.
Crinoid stems.
115- 20-Ctgs: Same.
120- 25-Ctgs: Same.
Small brachiopod valve.
125- 30-Ctgs: Light brown oolitic and crystalline limestone; green fossiliferous shale.
Crinoid stems.
130- 35-Ctgs: Same and green shale with **Fenestella Bryozoa**.
135- 40-Ctgs: Light gray crystalline limestone; green fossiliferous shale frag. from above ?
140- 45-Ctgs: Light brown oolitic limestone.
Ostracods noted.
145- 50-Ctgs: Same and crystalline limestone.
150- 55-Ctgs: Light gray crystalline limestone.
155- 60-Ctgs: Same.
Brachiopod noted.
160- 65-Ctgs: Same.
165- 70-Ctgs: Same and frag. of brownish gray coarsely crystalline limestone. **Bryozoa**; **crinoid stems**; greenish gray shaly lime.
170- 75-Ctgs: Brown crystalline limestone and bluish brown chert.

Tuscumbia

- 175- 80-Ctgs: Brown crystalline limestone.
Brachiopod impressions noted.
180- 85-Ctgs: Same.
185- 90-Ctgs: Same. Chert noted.
190- 200-Ctgs: Same.
200- 05-Ctgs: Same; and green shaly lime with **Fenestella Bryozoa** from above ?
205- 10-Ctgs: Same, with small amount of brown and greenish granular limestone. Chert.
210- 15-Ctgs: Brown crystalline and granular limestone; buff-colored lime from above ?
Bryozoa.
215- 20-Ctgs: Brown crystalline and granular limestone; oolitic limestone from above ?
Ostracods.
220- 25-Ctgs: Brown granular limestone.
225- 30-Ctgs: Brown granular limestone.
230- 35-Ctgs: Same and crystalline limestone.
235- 40-Ctgs: Same.
240- 45-Ctgs: Brown crystalline limestone.
245- 50-Ctgs: Same.
250- 54-Ctgs: Light brown granular limestone.
Crinoid stems.
254- 59-Ctgs: Same.

- 259- 63-Ctgs: Brown granular and crystalline limestone.
 263- 65-Ctgs: Light brown granular limestone.
 265- 70-Ctgs: Same and crystalline calcite.
 270- 75-Ctgs: Buff-colored granular limestone.
 275- 80-Ctgs: Same.
 280- 85-Ctgs: Brown granular limestone. Milky chert.
 285- 90-Ctgs: Same and brown crystalline limestone.
 290- 95-Ctgs: Same.
 295- 300-Ctgs: Gray finely granular limestone and brown crystalline limestone.
 300- 05-Ctgs: Brown crystalline and granular limestone. Chert noted.
 305- 10-Ctgs: Light grayish brown granular limestone. Chert noted.
 310- 15-Ctgs: Grayish brown crystalline limestone, gray and smoky chert.
 315- 20-Ctgs: Brown crystalline and granular limestone.
 320- 22-Ctgs: Same and milky chert.
 322- 25-Ctgs: Brown granular limestone and milky chert.

Probably Fort Payne

- 325- 30-Ctgs: Same with increasing amount of chert.
 330- 35-Ctgs: Light brown granular limestone. White chert.
 335- 40-Ctgs: Brown crystalline limestone. Chert.
 340- 45-Ctgs: Same.
 345- 50-Ctgs: Light brown granular limestone. White chert.
 350- 55-Ctgs: Same. Chiefly chert.
 355- 60-Ctgs: Same.
 360- 65-Ctgs: Light gray granular limestone, white chert.
 365- 80-Ctgs: Same.
 380- 85-Ctgs: Same.

"Gas"—note on bag.

- 389- 90-Ctgs: Brown granular limestone. White chert.
 390- 95-Ctgs: Same.
 395- 400-Ctgs: Same.
 400- 05-Ctgs: Light gray limestone and chert.
 405- 10-Ctgs: Light gray granular limestone and chert.
 410- 15-Ctgs: Same. Clear quartz noted.
 415- 45-Ctgs: Same.
 445- 50-Ctgs: Gray granular limestone and chert.
 450- 55-Ctgs: Dark gray limestone and chert with pyrite.
 455- 60-Ctgs: Same.
 460- 65-Ctgs: Dark gray limestone and cherty limestone.
 465- 75-Ctgs: Same.
 475- 80-Ctgs: Gray limestone and chert.
 480- 95-Ctgs: Same.
 495- 97-Ctgs: Green and grayish slightly calcareous clay with pyrite; light gray limestone and chert.
 497- 500-Ctgs: Black shale with pyrite; gray and green shale and lime from above.

Chattanooga Shale

- 500- 05-Ctgs: Black shale with pyrite.
505- 10-Ctgs: Same with gray shale and frag. of hard sandstone.
510- 15-Ctgs: Gray shale, sandstone, gray limestone, black shale from above. Pyrite.
515- 20-Ctgs: Same. Large rounded quartz grains noted.
520- 25-Ctgs: Pink and gray coarsely crystalline limestone with pyrite; material from above.
Bryozoa frag.

Silurian

- 525- 30-Ctgs: Pink and gray coarsely crystalline limestone.
Coral frag. noted.
Bryozoa.
530- 40-Ctgs: Same.
540- 45-Ctgs: Same, fossiliferous, and dark gray sandy lime.
545- 50-Ctgs: Same with rounded quartz grains.
550- 55-Ctgs: Gray limestone and dark gray sandy limestone, fossiliferous.
555- 60-Ctgs: Dark gray to black limestone and brownish gray finely crystalline limestone, fossiliferous. Black phosphatic material.
560- 65-Ctgs: Same.
Coral ? noted.
565- 70-Ctgs: Gray and greenish gray limestone with small black inclusions.
570- 75-Ctgs: Same.
575- 80-Ctgs: Same with more greenish gray limestone.
580- 85-Ctgs: Same and green and dark red shale.
585- 90-Ctgs: Same.
590- 95-Ctgs: Same and dark red lime.
595- 600-Ctgs: Same.
600- 05-Ctgs: Green, gray and dark red lime and shale.
605- 25-Ctgs: Same.
625- 30-Ctgs: Gray lime and shale and frag. of dark red shale.
630- 35-Ctgs: Gray and greenish gray limestone. Phosphatic material noted.
635- 40-Ctgs: Same.
640- 45-Ctgs: Greenish gray and gray to black limestone.
645- 50-Ctgs: Same.
650- 55-Ctgs: Same and brownish gray crystalline limestone.
655- 65-Ctgs: Same.
665- 70-Ctgs: Gray and greenish gray limestone, part with small phosphatic inclusions.
670- 75-Ctgs: Same and brownish gray to black limestone.
675- 80-Ctgs: Same and brownish gray to black limestone.
680- 85-Ctgs: Gray to black and brownish black limestone with small black phosphatic ? inclusions.
685- 90-Ctgs: Green and brownish gray to black limestone.
690- 95-Ctgs: Green and reddish brown limestone.
695- 700-Ctgs: Green, gray and dark red limestone and shaly lime.

700-	05-Ctgs:	Same.
705-	10-Ctgs:	Green, gray and reddish brown limestone.
710-	15-Ctgs:	Green and gray limestone.
715-	25-Ctgs:	Same.
725-	30-Ctgs:	Green and brown crystalline limestone.
730-	35-Ctgs:	Green and reddish brown limestone and shale.
735-	40-Ctgs:	Green, gray and brown limestone.
740-	45-Ctgs:	Green, gray and brown limestone.
745-	50-Ctgs:	Green, gray and brownish gray limestone.
750-	55-Ctgs:	Same. Ostracods.
755-	60-Ctgs:	Gray and brown limestone.
760-	65-Ctgs:	Greenish gray and brown limestone.
765-	70-Ctgs:	Brown and brownish black limestone.
770-	75-Ctgs:	Brown and grayish brown limestone.
775-	80-Ctgs:	Same, finely crystalline.
780-	85-Ctgs:	Same.
785-	90-Ctgs:	Gray dense limestone and brownish limestone.
790-	95-Ctgs:	Gray and brown finely granular limestone.
795-	800-Ctgs:	Same and black shale frag.
800-	05-Ctgs:	Same.
805-	10-Ctgs:	Gray finely granular limestone and greenish gray shale.
810-	15-Ctgs:	Light greenish gray finely granular limestone.
815-	20-Ctgs:	Same. Small black inclusions noted. Gray to black shale frag.
820-	25-Ctgs:	Same.
825-	30-Ctgs:	Gray limestone with small black inclusions of phosphatic ? material.

Ordovician

830-	35-Ctgs:	Brown crystalline limestone, soft greenish gray shale, bentonitic ? with mica.
835-	40-Ctgs:	Brown dense limestone, soft green and gray shale, bentonitic ? with brown mica, phlogopite ?
840-	45-Ctgs:	Brown limestone, small amount of soft green shale.
845-	50-Ctgs:	Same.
850-	55-Ctgs:	Same. Brown mica noted.
855-	60-Ctgs:	Brown limestone, soft green and gray clay with brown mica.
860-	65-Ctgs:	Same.
865-	70-Ctgs:	Brown granular and dense limestone, soft green shale. Crinoid stem noted.
870-	75-Ctgs:	Same.
875-	80-Ctgs:	Brown granular and dense limestone.
880-	90-Ctgs:	Same.
890-	95-Ctgs:	Brown granular and crystalline limestone, soft gray shale with mica.
895-	900-Ctgs:	Same.
900-	05-Ctgs:	Brown granular and crystalline limestone.
905-	15-Ctgs:	Same.

- 915- 20-Ctgs: Same.
Brachiopod shells noted.
- 920- 25-Ctgs: Same.
- 925- 30-Ctgs: Same and soft green shale, bentonite ?
- 930- 35-Ctgs: Brown crystalline limestone, part coarsely crystalline.
Impressions of shells.
- 935- 40-Ctgs: Brown limestone, soft green and gray shale, bentonite ?
with brown mica, part interstratified with frag. of pink limestone.
- 945- 50-Ctgs: Brown and gray limestone.
Brachiopod frag.
- 950- 55-Ctgs: Same.
- 955- 60-Ctgs: Same, fossiliferous.
- 960- 65-Ctgs: Same.
Brachiopod impressions.
- 965- 70-Ctgs: Same.
- 970- 75-Ctgs: Brown dense and crystalline limestone. Dark gray to black shale noted.
Brachiopod frag.
Ostracods.
- 975- 80-Ctgs: Same and gray limestone.
- 980- 90-Ctgs: Same.
- 990- 95-Ctgs: Same. Brownish black shale noted.
Ostracods.
Brachiopods.
- 995-1005-Ctgs: Same.
- 1005- 10-Ctgs: Brown and gray limestone.
Coral and Brachiopod impressions.
- 1010- 15-Ctgs: Same and brownish black shale noted.
- 1015- 30-Ctgs: Same.
- 1030- 35-Ctgs: Brown crystalline and dense limestone.
- 1035- 40-Ctgs: Same with some brown stain.
Ostracods noted.
- 1040- 45-Ctgs: Lighter brown limestone.
- 1045- 50-Ctgs: Same.
- 1050- 55-Ctgs: Light brown and gray dense and crystalline limestone.
- 1055- 60-Ctgs: Same. Crystalline calcite noted.
- 1050- 65-Ctgs: Same.
- 1065- 70-Ctgs: Same.
Frag. of Brachiopods; and Ostracods noted.
- 1070- 90-Ctgs: Same.
- 1090- 95-Ctgs: Brown coarsely crystalline limestone.
- 1095-1120-Ctgs: Same.
- 1120- 25-Ctgs: Same and granular limestone with pyrite.
- 1125- 30-Ctgs: Same.
- 1130- 35-Ctgs: Brown dense and granular limestone.
- 1135- 40-Ctgs: Same. Pyrite noted.
- 1140- 45-Ctgs: Same.
- 1145- 50-Ctgs: Brown granular and dense limestone.

- 1150- 55-Ctgs: Same.
- 1155- 60-Ctgs: Brown coarsely crystalline and granular limestone. Shell impressions noted.
- 1160- 65-Ctgs: Same.
- 1165- 70-Ctgs: Brown and gray limestone, dark gray shaly lime. Shell frag.
- 1170- 75-Ctgs: Same.
Brachiopod frag.
- 1175- 80-Ctgs: Light brown limestone. **Shell impressions.** Dark gray shaly lime.
- 1180- 85-Ctgs: Same and dark brown coarsely crystalline limestone.
- 1185- 90-Ctgs: Dark brown limestone with **brachiopod impressions.** Dark gray limestone.
- 1190- 95-Ctgs: Same.
Bryozoa ? noted.
- 1195-1200-Ctgs: Same.
- 1200- 05-Ctgs: Dark brown limestone, part coarsely crystalline, part granular. Dark gray limestone.
- 1205- 10-Ctgs: Dark brown limestone.
- 1210- 15-Ctgs: Same, and chert.
- 1215- 20-Ctgs: Brown and dark brown granular and dense limestone and brown chert noted.
- 1220- 25-Ctgs: Same and brown chert.
- 1225- 45-Ctgs: Same.
- 1245- 50-Ctgs: Dark brown to brownish black limestone; medium brown limestone.
- 1250- 55-Ctgs: Brown limestone.
- 1255- 60-Ctgs: Same, part fossiliferous.
- 1260- 70-Ctgs: Same.
- 1270- 75-Ctgs: Light brown and greenish gray dense and slightly granular limestone.
- 1275- 80-Ctgs: Greenish gray dense limestone, brown dense limestone.
- 1280- 85-Ctgs: Greenish gray dense limestone, brown dense limestone.
- 1285- 90-Ctgs: Same.
- 1290- 95-Ctgs: Same, and brownish black shale.
- 1295-1300-Ctgs: Medium brown limestone and brownish black shale.
- 1300- 05-Ctgs: Brown dense limestone.
- 1305- 10-Ctgs: Brown dense limestone.
Ostracod.
- 1310- 15-Ctgs: Grayish brown dense limestone and dark gray shaly lime.
- 1315- 20-Ctgs: Brownish gray dense limestone.
- 1320- 30-Ctgs: Same.
- 1330- 35-Ctgs: Same.
Ostracods.
- 1335- 55-Ctgs: Same.
- 1355- 60-Ctgs: Brown dense limestone.
- 1360- 65-Ctgs: Same.
- 1365- 70-Ctgs: Same and dark gray shaly lime.
- 1370- 85-Ctgs: Same.

- 1385- 90-Ctgs: Greenish gray dense limestone, brown limestone.
1390-1400-Ctgs: Same.
1400- 05-Ctgs: Greenish gray dense limestone and finely crystalline limestone.
1405- 10-Ctgs: Same.
1410- 15-Ctgs: Gray and brown dense and finely granular limestone.
1415- 20-Ctgs: Same.
1420- 25-Ctgs: Same and greenish gray limestone.
1425- 60-Ctgs: Same.
1460- 65-Ctgs: Gray and brown dense limestone.
1465- 70-Ctgs: Light brown dense limestone, light greenish gray lime frag.
1470- 75-Ctgs: Same and medium brown dense limestone.
Ostracods noted.
1475- 80-Ctgs: Same.
1480- 85-Ctgs: Light brown dense to finely crystalline limestone.
1485-1500-Ctgs: Same.
1500- 05-Ctgs: Light brown finely granular limestone.
1505- 10-Ctgs: Same and gray dolomitic ? limestone.
1510- 15-Ctgs: Same.
1515- 20-Ctgs: Light brown dense limestone.
1520- 25-Ctgs: Same and granular limestone, dark gray shaly lime.
1525- 30-Ctgs: Light gray limestone.
Ostracods noted.
1530- 35-Ctgs: Same.
1535- 40-Ctgs: Light brown dense limestone.
1540- 45-Ctgs: Same and gray limestone.
1545- 55-Ctgs: Same.
1555- 60-Ctgs: Brown dense and crystalline limestone.
1560- 65-Ctgs: Same.
1565- 70-Ctgs: Brown and greenish crystalline limestone.
1570- 75-Ctgs: Light green soft shale; brown crystalline limestone, green calcareous shale.
1575- 80-Ctgs: Light brown dense and granular limestone.
1580- 85-Ctgs: Light brown dense and granular limestone.
1585- 90-Ctgs: Light gray finely granular limestone.
1590- 95-Ctgs: Same.
1595-1600-Ctgs: Light gray and brown finely crystalline limestone; frag. of hard black shale.
1600- 05-Ctgs: Light gray finely granular limestone.
1605- 10-Ctgs: Light greenish gray and light brown granular limestone and fine-grained limestone.
1610- 15-Ctgs: Same and black and green shale frag.
1615- 20-Ctgs: Light greenish gray finely crystalline limestone; dark green shale frag.
1620- 25-Ctgs: Light greenish gray finely granular limestone; green non-calcareous shale.
1625- 30-Ctgs: Same and green lime.
1630- 35-Ctgs: Same and brown limestone frag.

1635-	45-Ctgs:	Same.
1645-	50-Ctgs:	Light brown dense limestone, light green finely crystalline limestone, green shale and limestone with pyrite noted.
1650-	65-Ctgs:	Same.
1665-	70-Ctgs:	Light greenish gray finely granular limestone with occasional sand grains; green shale with pyrite.
1670-	75-Ctgs:	Light green sandy limestone with rounded frosted quartz grains; brown dolomite.
1675-	80-Ctgs:	Brown finely crystalline dolomite.
1680-	85-Ctgs:	Light brown dolomite, part coarsely crystalline.
1685-	90-Ctgs:	Same.

Summary

Bangor and St. Genevieve	15'	to	170'
Tuscumbia	170'	to	325'
Prob. Fort Payne	325'	to	497'
Chattanooga	497'	to	520'
Silurian	520'	to	825'
Ordovician	825'	to	1690' T.D.

W. W. Newman et al
Dunk Hill #1
Sec. 35—T 5 S—R 2 E
Madison County, Ala.

Elev. 718 ft.
Began July 31, 1940
Completed September 10, 1940

0-	10-Ctgs:	Light gray coarsely crystalline limestone. Bryozoa.
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Bangor

10-	15-Ctgs:	Same. Brachiopod frag. Pentagonal crinoid stems.
15-	20-Ctgs:	Light gray coarsely crystalline limestone. Crinoid stems.
20-	25-Ctgs:	Same. Fenestella Bryozoa. Crinoid stems.
25-	30-Ctgs:	Same. Chert noted. Bryozoa. Crinoid stems.
30-	35-Ctgs:	Same and soft green shale; granular limestone.
35-	40-Ctgs:	Same. Bryozoa. Crinoid stems.

- 40- 45-Ctgs: Brown and gray coarsely crystalline limestone; soft green shale.
Bryozoa.
Crinoid stems.
- 45- 50-Ctgs: Brown oolitic limestone and crystalline limestone.
Bryozoa.
- 50- 55-Ctgs: Same. Brown chert noted.
- 55- 60-Ctgs: Light brown coarsely crystalline and oolitic limestone.
Crinoid stems.
- 60- 65-Ctgs: Gray and brown coarsely crystalline limestone.
- 65- 70-Ctgs: Light brown crystalline and oolitic limestone.
- 70- 75-Ctgs: Same and brown green limestone.
- 75- 80-Ctgs: Light brown oolitic limestone; greenish gray limestone.
- 80- 85-Ctgs: Brown oolitic and crystalline limestone.
Crinoid stems.
- 85- 90-Ctgs: Gray coarsely crystalline limestone; oolitic limestone noted.
Greenish gray shaly lime.
- 90- 95-Ctgs: Brown crystalline limestone; green shaly lime with **Fenestella Bryozoa**.
Crinoid stems noted.
- 95- 100-Ctgs: Light brown coarsely crystalline limestone, part of limestone with weathered appearance.
Crinoid stems, some pentagonal in shape.
Fenestella Bryozoa.
- 100- 05-Ctgs: Greenish shaly lime, fossiliferous; brown limestone with weathered appearance.
Crinoid stems.
Bryozoa.
- 105- 10-Ctgs: Same and brown crystalline limestone.
- 110- 15-Ctgs: Same.
- 115- 20-Ctgs: Light brown oolitic limestone; greenish gray finely granular limestone.
- 120- 25-Ctgs: Light brown dense limestone and oolitic limestone.
- 125- 30-Ctgs: Light brown coarsely crystalline limestone, also brown dense limestone, and material from above ?
- 130- 35-Ctgs: Same.
- 135- 40-Ctgs: Same and green fossiliferous shale from above.
- 140- 45-Ctgs: Same.
- 145- 50-Ctgs: Light brown crystalline limestone.
- 150- 55-Ctgs: Light brown crystalline and oolitic limestone.
- 155- 60-Ctgs: Light brown oolitic and crystalline limestone.
- 160- 65-Ctgs: Light brownish gray crystalline limestone.
Impressions of brachiopods.
- 165- 70-Ctgs: Same and green shale from above ? Chert noted.
- 170- 75-Ctgs: Same.
- 175- 80-Ctgs: Same and brown finely crystalline limestone. Chert.
- 180- 85-Ctgs: Light brown finely crystalline and granular limestone; green shale frag. from above ? Oolitic limestone noted and chert.

185- 90-Ctgs:	Light brownish gray limestone and chert.
190-191½-Ctgs:	Light brown cherty limestone.
191½- 95-Ctgs:	Light brown crystalline limestone, white and bluish chert.
195- 200-Ctgs:	Same.
200- 05-Ctgs:	Same. Brachiopod impressions.
205- 10-Ctgs:	Brown coarsely crystalline limestone; oolitic limestone noted.
210- 15-Ctgs:	Same. Brachiopod impression.
215- 25-Ctgs:	Same.
225- 30-Ctgs:	Same. Small brachiopods.
230- 35-Ctgs:	Brown coarsely crystalline limestone. Brachiopod impressions.
235- 40-Ctgs:	Same.
240- 45-Ctgs:	Same and brown granular limestone.
245- 50-Ctgs:	Same and chert noted. Gray very coarsely crystalline limestone.
250- 55-Ctgs:	Same with white chert.
255- 58-Ctgs:	Brown crystalline limestone. Brachiopod impressions.
258- 65-Ctgs:	Same.
265- 70-Ctgs:	Brown crystalline limestone and brachiopod impressions.

Tuscumbia

270- 75-Ctgs:	Same and brown chert.
275- 90-Ctgs:	Same.
290- 95-Ctgs:	Light brownish gray granular limestone and chert.
295- 300-Ctgs:	Light brown crystalline limestone.
300- 05-Ctgs:	Brown crystalline limestone.
305- 10-Ctgs:	Same.
310- 15-Ctgs:	Brownish gray coarsely crystalline limestone and greenish gray lime frag.
315- 20-Ctgs:	Brownish gray coarsely crystalline limestone. Fossil frag.
320- 25-Ctgs:	Same.

Summary

Bangor	0'
and St. Genevieve	? to 265'
Tuscumbia	265' to 325'

W. W. Newman

Nichols #2

135 ft. W. and 65 ft. S. of NE cor of NW/4

Sec. 2—T 6 S—R 2 E

Madison County, Alabama

Elev. 742 ft.

Began September 15, 1940

Completed October 28, 1940

- 0- 5-Ctgs: Brown and gray micaceous, carbonaceous shale.
5- 10-Ctgs: Same and gray oolitic limestone.

Bangor

- 10- 15-Ctgs: Brown coarsely crystalline, fossiliferous limestone.
Crinoid stems.
Fenestella Bryozoa.
15- 20-Ctgs: Same, very fossiliferous.
Bryozoa.
20- 25-Ctgs: Same and gray limestone.
Crinoid stems.
Other fossils.

Bangor

- 25- 30-Ctgs: Gray crystalline limestone.
30- 35-Ctgs: Gray coarsely crystalline limestone.
35- 40-Ctgs: Same.

Bangor

- 40- 45-Ctgs: Same.
45- 50-Ctgs: Same. Part oolitic.
50- 55-Ctgs: Same and gray shaly lime.
55- 60-Ctgs: Same and gray to brown granular limestone. Brown
chert noted.
60- 65-Ctgs: Same and gray dense limestone.
65- 70-Ctgs: Same.
70- 75-Ctgs: Brown oolitic and crystalline limestone.
Brachiopod frag.
75- 80-Ctgs: Same.
80- 85-Ctgs: Gray and brown crystalline limestone. Brown chert.
85- 90-Ctgs: Same and green shale and shaly lime frag.
90- 95-Ctgs: Light gray oolitic limestone.
95- 100-Ctgs: Same and crystalline limestone.
100- 05-Ctgs: Same.
105- 15-Ctgs: Same.
115- 20-Ctgs: Same and light greenish gray limestone and shaly lime.

Prob. St. Genevieve

- 120- 25-Ctgs: Same.
Elliptical crinoid stems.
125- 30-Ctgs: Same and light greenish gray granular limestone.
Elliptical crinoid stems. Other crinoid stems.

- 130- 35-Ctgs: Light green shaly lime.
 135- 40-Ctgs: Same.
 Elliptical crinoid stems with spines.
 145- 50-Ctgs: Same and light gray crystalline and oolitic limestone.
 150- 55-Ctgs: Light brownish gray crystalline limestone.
 155- 60-Ctgs: Light gray crystalline limestone.
 160- 75-Ctgs: Same.
 175- 80-Ctgs: Light gray coarsely crystalline limestone.
 180- 85-Ctgs: Same and green shale frag.
 185- 90-Ctgs: Same.
 190- 95-Ctgs: Gray oolitic limestone.
 195- 200-Ctgs: Light gray coarsely crystalline limestone.
 200- 15-Ctgs: Same.
 215- 20-Ctgs: **Brown** crystalline limestone.

Tuscumbia

- 220- 25-Ctgs: Brown coarsely crystalline limestone.
 225- 30-Ctgs: Gray crystalline limestone.
 230- 35-Ctgs: Brownish gray crystalline limestone.
 235- 40-Ctgs: Same and chert.
 240- 45-Ctgs: Same and oolitic limestone from above ?
 245- 46-Ctgs: Light brown crystalline and granular limestone; oolitic limestone from above ?
 246- 60-Ctgs: Same.
 250- 65-Ctgs: Brownish gray granular and crystalline limestone; oolitic limestone from above ?
 265- 80-Ctgs: Same.
 280- 87-Ctgs: Brown crystalline limestone.
 287- 92-Ctgs: Same.
 292- 97-Ctgs: Same and brown granular limestone.
 297- 302-Ctgs: Light brown granular and crystalline limestone.
 302- 07-Ctgs: Same.
 307- 12-Ctgs: Light brown finely granular limestone.
 312- 17-Ctgs: Same and milky chert.
 317- 22-Ctgs: Gray finely granular limestone and milky chert.
 322- 32-Ctgs: Same.
 332- 35-Ctgs: Gray granular and crystalline limestone.
 335- 40-Ctgs: Gray crystalline and granular limestone.
 340- 45-Ctgs: Gray granular and crystalline limestone.
 345- 50-Ctgs: Brown granular and crystalline limestone and chert.
 350- 60-Ctgs: Same.
 360- 65-Ctgs: Brown granular and crystalline limestone. Chert noted.

Probably still Tuscumbia

Summary

Bangor	0'	to.....	115'
St. Genevieve ?	115'	to.....	215'±
Tuscumbia	215'	to.....	365'

W. W. Newman

W. P. Nichols #3

350' due south of Nichols #1

Sec. 2—T 6 S—R 2 E

Madison County, Ala.

Elev. 707 ft.

Began November 1, 1940

Completed December, 1940

- 30- 35-Ctgs: Medium gray crystalline limestone, fossiliferous; greenish gray shaly lime.
Crinoid stems.
Fenestella Bryozoa.

Bangor

- 35- 40-Ctgs: Same.
40- 45-Ctgs: Grayish brown crystalline limestone, partly oolitic; gray shaly lime. Brown chert.
Crinoid stems.
45- 50-Ctgs: Same.
50- 55-Ctgs: Light brownish gray crystalline limestone. Chert noted.
55- 60-Ctgs: Grayish brown oolitic and crystalline limestone.
60- 70-Ctgs: Same.
70- 75-Ctgs: Medium gray dense limestone and gray crystalline limestone. Oolitic limestone noted.
75- 80-Ctgs: Light gray coarsely crystalline limestone.
80- 85-Ctgs: Same and greenish gray shale.
Fenestella Bryozoa.
Crinoid stems.
Other fossils.
Elliptical crinoid stems.

St. Genevieve ?

- 85- 90-Ctgs: Light gray coarsely crystalline limestone. Greenish gray shale.
90- 95-Ctgs: Greenish gray shaly lime.
Brachiopods.
Fenestella Bryozoa.
Elliptical crinoid stems with spines.
95- 100-Ctgs: Same and greenish gray limestone.
Elliptical crinoid stems.
100- 05-Ctgs: Same.
Elliptical crinoid stems.
105- 110-Ctgs: Light gray dense and crystalline limestone; greenish gray granular limestone. Oolitic limestone noted.
110- 15-Ctgs: Light greenish gray crystalline limestone.
115- 20-Ctgs: Light gray coarsely crystalline limestone.
120- 25-Ctgs: Same and part of limestone oolitic.
125- 30-Ctgs: Light gray oolitic limestone.
130- 35-Ctgs: Same and crystalline limestone.

- 135- 40-Ctgs: Grayish brown oolitic and crystalline limestone.
 140- 45-Ctgs: Same.
 Crinoid stems.
 145- 50-Ctgs: Light brown crystalline limestone.
 150- 55-Ctgs: Light grayish brown oolitic limestone.
 155- 60-Ctgs: Light brown crystalline and dense limestone. Oolitic limestone noted.
 160- 65-Ctgs: Light gray coarsely crystalline limestone.
 165- 70-Ctgs: Light gray crystalline limestone.
 170- 75-Ctgs: Same.
 175- 80-Ctgs: Same. Chert noted.
 180- 85-Ctgs: Brown dense limestone.

Tuscumbia

- 185- 90-Ctgs: Same and coarsely crystalline limestone.
 190- 95-Ctgs: Gray coarsely crystalline limestone.
 195- 210-Ctgs: Same.
 210- 15-Ctgs: Grayish brown crystalline limestone; oolitic frag. from above ?
 Same.
 215- 20-Ctgs: Same. Oolitic limestone from above ?
 220- 25-Ctgs: Brown crystalline limestone. Oolitic limestone noted.
 225- 30-Ctgs: Same.
 230- 35-Ctgs: Light brown granular limestone. White chert noted.
 235- 40-Ctgs: Brown dense granular limestone.
 240- 44-Ctgs: Brown crystalline limestone.
 244- 47-Ctgs: Brown granular and crystalline limestone.
 247- 50-Ctgs: Brown crystalline limestone.
 250- 55-Ctgs: Same.
 255- 60-Ctgs: Brown granular limestone.
 260- 65-Ctgs: Same and white cherty lime.
 265- 69-Ctgs: Brown crystalline limestone.
 269- 74-Ctgs: Brown and gray crystalline and granular limestone.
 274- 79-Ctgs: Same.
 279- 84-Ctgs: Same.
 284- 89-Ctgs: Same.

Summary

Bangor 30' ¹¹ to 85'
 St. Genevieve ? 85' to 180'
 Tuscumbia 180' to 289' T.D.

W. W. Newman

Nichols #4

200' S of N line—400' W of E line

Sec. 2—T 6 S—R 2 E

Madison County, Ala.

Elev. 670 ft.

Began February 27, 1941

Completed April 26, 1941

25- 30-Ctgs: Gray oolitic and crystalline limestone.

Bangor

30- 35-Ctgs: Gray oolitic limestone.

35- 40-Ctgs: Greenish gray oolitic and crystalline limestone.

40- 45-Ctgs: Same and brown crystalline limestone. Green shale carrying **Fenestella Bryozoa** and shaly lime. Pentagonal crinoid stems.

45- 50-Ctgs: Greenish gray limestone and green shale with **Bryozoa**. Crinoid stems.

50- 65-Ctgs: Same.

65- 70-Ctgs: Light brown oolitic and crystalline limestone and fossiliferous shale; greenish gray granular limestone.

70- 75-Ctgs: Same.
Fenestella Bryozoa noted.

75- 80-Ctgs: Light brown crystalline limestone, greenish gray shale and lime. Brown chert.

80- 85-Ctgs: Same and green shale frag.

85- 90-Ctgs: Light gray crystalline limestone, green shale.

90- 95-Ctgs: Light brown oolitic and crystalline limestone. Green shale frag. with **Bryozoa**. Crinoid stems noted.

95- 100-Ctgs: Brown coarsely crystalline limestone and oolitic limestone; green fossiliferous shale. **Bryozoa**.

100- 05-Ctgs: Same.

105- 10-Ctgs: Same.
Bryozoa frag.
Crinoid stems and plates.

110- 15-Ctgs: Light grayish brown crystalline limestone; green fossiliferous shale. Ostracods.

Crinoid stems.

115- 20-Ctgs: Same with **crinoid stems**.

120- 25-Ctgs: Same with **Brachiopod impressions**.

125- 30-Ctgs: Same.

130- 35-Ctgs: Light grayish brown dense limestone.

135- 40-Ctgs: Same.

140- 45-Ctgs: Light gray and brown crystalline limestone, greenish shale and lime.

- 145- 55-Ctgs: Light brown coarsely crystalline limestone and greenish shale.
Considerable bluish chert.
- 155- 60-Ctgs: Brown coarsely crystalline limestone; green shale frag. Chert.
- 160- 65-Ctgs: Same.
Brachiopod impression noted.
- 165- 70-Ctgs: Brown crystalline and oolitic limestone.
Crinoid stems.
- 170- 75-Ctgs: Brown crystalline limestone.
Brachiopod impression noted.
Crinoid stems.
- 175- 80-Ctgs: Brown coarsely crystalline limestone.
- 180- 85-Ctgs: Same and oolitic limestone.
- 185- 90-Ctgs: Brown crystalline and granular limestone.
- 190- 95-Ctgs: Same, part oolitic.
- 195- 200-Ctgs: Light brown granular limestone.
Pentagonal crinoid stems.
Other crinoid stems.

Tuscumbia

- 200- 05-Ctgs: Same and brown crystalline limestone. **Brachiopod impression.** White chert noted.
- 205- 10-Ctgs: Same.
- 210-12½-Ctgs: Brown crystalline limestone.
- 212½-17½-Ctgs: Same.
- 217½-22½-Ctgs: Same and granular limestone.
- 222½- 27-Ctgs: Light brown granular limestone.
- 227- 32-Ctgs: Grayish brown crystalline and granular limestone.
Crinoid stems.
- 232- 50-Ctgs: Same.
- 250- 55-Ctgs: Brown granular and crystalline limestone.
- 255- 60-Ctgs: Light brown crystalline limestone. Chert noted.
- 260- 65-Ctgs: Brown coarsely crystalline limestone and chert noted.
- 265- 70-Ctgs: Same and chert.
- 270- 75-Ctgs: Grayish brown crystalline limestone and chert.
- 275- 80-Ctgs: Light brown limestone and chert.

"Gas"—Notation on bag.

- 280- 85-Ctgs: Brown crystalline limestone and chert.
- 285- 90-Ctgs: Same with increasing amount of chert.

Prob. Fort Payne

- 290- 305-Ctgs: Same.

Summary

Bangor	25'	to	195'
	Including St. Genevieve		
Tuscumbia	195'	to	290'
Prob. Fort Payne	290'	to	305'

W. W. Newman

Nichols 3-B

Sec. 2—T 6 S—R 2 E

750' a little west of south from #1

Madison County, Ala.

Elev. 723 ft.

Began May 6, 1941

- 0- 10-Ctgs: Brown and gray limestone.
Coral and crinoid stem noted.

Bangor

- 10- 15-Ctgs: Same and gray shale.
Fenestella Bryozoa abundant.
- 15- 20-Ctgs: Gray coarsely crystalline limestone.
Fenestella Bryozoa noted.
- 20- 25-Ctgs: Same.
Other shell frag.
- 25- 30-Ctgs: Light gray coarsely crystalline limestone. Gray shale
with **Fenestella Bryozoa**.
Crinoid stems.
Archimedes frag.
- 30- 35-Ctgs: Same.
- 35- 40-Ctgs: Gray crystalline limestone and shale.
Bryozoa.
- 40- 45-Ctgs: Gray and brownish crystalline limestone.
Crinoid stems.
- 45- 50-Ctgs: Same. Green shale noted.
- 50- 55-Ctgs: Greenish gray granular limestone, green shale with **Fenestella Bryozoa**. Gray crystalline limestone.
Crinoid stems.
- 60- 65-Ctgs: Light and medium gray limestone. Green shale frag.
Crinoid stems noted.
- 65- 70-Ctgs: Light brownish gray oolitic and crystalline limestone.
Crinoid stems.
- 70- 75-Ctgs: Same.
- 75- 80-Ctgs: Gray and brown crystalline limestone.
- 80- 85-Ctgs: Light gray crystalline limestone.
- 85- 90-Ctgs: Gray crystalline limestone.
- 90- 95-Ctgs: Gray crystalline limestone.
Crinoid stems.
- 95- 100-Ctgs: Light gray oolitic and crystalline limestone.
- 100- 05-Ctgs: Same.
- 105- 10-Ctgs: Gray crystalline limestone; green shale.
- 110- 15-Ctgs: Greenish gray crystalline limestone, green fossiliferous shale.
Small brachiopod noted.
Crinoid stems.
- 115- 20-Ctgs: Same.

- 120- 25-Ctgs: Light gray limestone, green shaly fossiliferous lime with **Bryozoa**.
- 125- 30-Ctgs: Light greenish gray granular and crystalline limestone. *Fenestella* **Bryozoa**.
- 130- 35-Ctgs: Light gray crystalline and oolitic limestone. Small brachiopod noted.
- 135- 40-Ctgs: Light brownish gray crystalline limestone with chert.
- 140- 45-Ctgs: Same.
- 145- 50-Ctgs: Light brownish gray coarsely crystalline limestone.
- 150- 55-Ctgs: Brown crystalline limestone, part oolitic; green shale frag. from above ? with **Fenestella** **Bryozoa**. Crinoid stems.
- 155- 65-Ctgs: Same.
- 165- 70-Ctgs: Same with coarsely crystalline limestone.
- 170- 75-Ctgs: Brown coarsely crystalline limestone.
- 175- 80-Ctgs: Light brown oolitic limestone.
- 180- 85-Ctgs: Same and crystalline limestone.
- 185- 90-Ctgs: Light gray coarsely crystalline limestone; green shale with **Bryozoa**.
- 190- 95-Ctgs: Same.
- 195- 200-Ctgs: Same and more finely crystalline limestone.
- 200- 05-Ctgs: Same and green shale. *Fenestella* **Bryozoa** and crinoid stems.
- 205- 10-Ctgs: Light brown granular limestone, small amount of greenish granular limestone and green shale.
- 210- 15-Ctgs: Light brown crystalline limestone; chert noted.

Tuscumbia on basis of lithology

- 215- 20-Ctgs: Same with green shale. **Bryozoa**. Brachiopod impression
- 220- 25-Ctgs: Brown crystalline limestone.
- 225- 40-Ctgs: Same.
- 240- 45-Ctgs: Brown coarsely crystalline limestone and greenish granular limestone. Chert noted. Brachiopod impression.
- 245- 50-Ctgs: Brown crystalline limestone.
- 250- 55-Ctgs: Brown coarsely crystalline limestone.
- 255- 60-Ctgs: Light brown crystalline and granular limestone.
- 260- 65-Ctgs: Same.
- 265- 70-Ctgs: Brown crystalline limestone.
- 270- 75-Ctgs: Same. Brachiopod impression.
- 275- 80-Ctgs: Grayish brown crystalline limestone.
- 280- 335-Ctgs: Same.
- 335- 40-Ctgs: Same with increasing amount of gray limestone.
- 340- 45-Ctgs: Same.
- 345- 50-Ctgs: Same. Chert noted.

Tuscumbia

Summary

Bangor	0'	to	215'
and St. Genevieve			
Tuscumbia	215'	to	350'

Mellen and Thompson

Baldrige #1

NE/4 of NW/4

Sec. 8—T 1 S—R 1 E

Madison County, Ala.

Elev. 730 ft. Bar.

Began August 12, 1941

Comp. September 12, 1941

- 4- 11-Ctgs: Yellow cherty limestone, cherty gravel; **crinoid stems**.

Silurian

- 11- 14-Ctgs: Same, and greenish and pink tinged limestone carrying **corals**.
 14- 19-Ctgs: Greenish and pink-tinged coarsely crystalline limestone with pyrite, gray calcareous shale; greenish gray shale.
 19- 21-Ctgs: Same and gray coarsely crystalline limestone and pyrite.
 21- 25-Ctgs: Same and gray sandy lime and gray coarsely crystalline fossiliferous limestone.
 25- 30-Ctgs: Dark gray limestone with black phosphatic material.

Ordovician

- 30- 35-Ctgs: Gray to black limestone with phosphatic material.
 35- 40-Ctgs: Gray and greenish gray limestone with small black inclusions.
 40- 45-Ctgs: Gray to black limestone, part with small black inclusions. Corals noted.
 45- 50-Ctgs: Gray to black phosphatic limestone.
 50- 55-Ctgs: Gray and greenish gray limestone and shaly lime with small black inclusions.
 55- 60-Ctgs: Greenish gray limestone and shaly lime with pyrite inclusions.
 60- 65-Ctgs: Same and gray and brown limestone.
 65- 75-Ctgs: Same.
 75- 80-Ctgs: Greenish gray limestone and reddish brown limestone.
 80- 85-Ctgs: Same with increasing amount of reddish brown lime.
 85- 90-Ctgs: Same.
 90- 95-Ctgs: Greenish gray and gray limestone. Pyrite.
 95- 100-Ctgs: Greenish gray limestone, gray coarsely crystalline limestone.
 Brachiopod impression.
 Coral frag.

- 100- 05-Ctgs: Greenish gray and brown limestone.
 105- 10-Ctgs: Greenish gray and brown limestone, part with small black inclusions.
 110- 20-Ctgs: Same.
 120- 25-Ctgs: Gray to black limestone with small black inclusions.
 125- 30-Ctgs: Gray and brownish gray limestone.
 130- 35-Ctgs: Same.
 135- 40-Ctgs: Same.
 Coral noted.
 140- 45-Ctgs: Same and black limestone.
 145- 50-Ctgs: Same with grayish chert noted.
 156- 61-Ctgs: Gray to black and brown limestone, part with small black inclusions.
 161- 66-Ctgs: Gray, brown and black limestone.
 166- 73-Ctgs: Greenish gray impure limestone.
 173- 85-Ctgs: Same.
 185- 90-Ctgs: Brown and gray crystalline limestone, part with small black inclusions.
 Brachiopod frag.
 190- 95-Ctgs: Same with gray chert and greenish gray limestone.
 Coral frag.
 195- 200-Ctgs: Gray and greenish gray limestone.
 200- 05-Ctgs: Greenish gray limestone.
 205- 10-Ctgs: Same.
 210- 15-Ctgs: Brown limestone, part with small black inclusions; greenish gray limestone.
 215- 19-Ctgs: Same.
 219- 24-Ctgs: Gray limestone.
 224- 30-Ctgs: Same.
 230- 35-Ctgs: Brown limestone.
 235- 40-Ctgs: Brown and gray finely granular limestone, black shaly lime.
 240- 45-Ctgs: Brown and greenish gray limestone.
 245- 50-Ctgs: Brown and brownish gray limestone.
 250- 55-Ctgs: Brown dense and granular limestone, brownish gray dense limestone.
 255- 60-Ctgs: Brown and greenish gray limestone.
 260- 65-Ctgs: Grayish brown finely granular limestone.
 265- 70-Ctgs: Same.
 270- 75-Ctgs: Brown granular limestone, gray and greenish gray dense limestone, part with fossils.
 275- 80-Ctgs: Dark brown dolomite ?
 280- 85-Ctgs: Same.
 285- 90-Ctgs: Same and grayish brown limestone.
 Coral frag. noted.
 290- 95-Ctgs: Same and **brachiopod impressions**. Chert.
 295- 300-Ctgs: Green, gray and brown limestone. Pyrite inclusions.
 300- 05-Ctgs: Gray and brownish limestone with small black inclusions.

- 305- 10-Ctgs: Gray limestone with small black inclusions.
Ostracods noted.
- 310- 15-Ctgs: Gray limestone with abundant phosphatic inclusions, part shaly.
- 315- 20-Ctgs: Gray limestone with less phosphatic material than preceding sample.
- 320- 25-Ctgs: Gray limestone with phosphatic inclusions.
- 325- 30-Ctgs: Same with phosphatic casts of **gastropods** noted.
- 330- 35-Ctgs: Same.
Brachiopods noted.
- 335- 50-Ctgs: Same.
- 350- 57-Ctgs: Same and brownish gray dense limestone, fossiliferous.
- 357- 63-Ctgs: Brown and grayish brown dense limestone.
- 363- 68-Ctgs: Same and brown crystalline limestone.
- 368- 74-Ctgs: Light brown crystalline limestone.
- 374- 80-Ctgs: Same and grayish limestone.
- 380- 86-Ctgs: Light brown crystalline limestone.
- 386- 92-Ctgs: Same and grayish brown limestone.
- 392- 99-Ctgs: Brown and grayish brown crystalline and dense limestone.
- 399- 405-Ctgs: Same.
- 405- 11-Ctgs: Greenish gray and brown limestone.
- 411- 17-Ctgs: Gray and grayish brown granular limestone, part fossiliferous.
- 417- 23-Ctgs: Same and crystalline limestone.
- 423- 29-Ctgs: Same with gray crystalline limestone.
- 429- 41-Ctgs: Same.
- 441- 47-Ctgs: Same with **brachiopod impressions**.
- 447- 50-Ctgs: Same.
- 450- 56-Ctgs: Same and **brachiopod impressions** and **frag.**
- 456- 62-Ctgs: Same with increasing amount of **brachiopod impressions** and **frag.**
- 462- 68-Ctgs: Same and gray impure limestone.
- 468- 75-Ctgs: Grayish brown crystalline limestone.
- 475- 81-Ctgs: Same and gray dense limestone.
- 481- 87-Ctgs: Same.
- 487- 93-Ctgs: Same with increasing amount of gray dense limestone.
- 493- 500-Ctgs: Gray crystalline and dense limestone.
Brachiopod impressions.
- 500- 09-Ctgs: Same.
- 509- 15-Ctgs: Same and grayish brown limestone.
- 515- 21-Ctgs: Same.
Brachiopod impressions and crinoid stem noted.
- 521- 27-Ctgs: Same.
- 527- 33-Ctgs: Grayish brown dense limestone.
- 533- 39-Ctgs: Same and granular limestone.
- 539- 45-Ctgs: Light gray and brown limestone.
- 545- 51-Ctgs: Light brown crystalline limestone and brown shale frag.
- 551- 56-Ctgs: Light brown crystalline limestone.
- 556- 62-Ctgs: Light and medium brown crystalline limestone.

- 562- 68-Ctgs: Same as preceding and light brown chert noted.
 568- 87-Ctgs: Same.
 587- 93-Ctgs: Same, fossiliferous.
 593- 99-Ctgs: Same with **brachiopod frag.**
 599- 611-Ctgs: Same and gray limestone.
 617- 23-Ctgs: Brown crystalline limestone.
 624- 36-Ctgs: Same.
 636- 48-Ctgs: Same and grayish brown crystalline limestone.
 648- 54-Ctgs: Light brown crystalline limestone.
 Small brachiopod noted.
 654- 60-Ctgs: Grayish brown crystalline limestone and brown chert noted.
 660- 66-Ctgs: Same.
 666- 75-Ctgs: Same and brown dense limestone.
 675- 80-Ctgs: Brown granular limestone and grayish brown dense limestone.
 680- 85-Ctgs: Same and gray limestone.
 Brachiopod frag.
 Coral frag.
 685- 96-Ctgs: Same.
 696- 707-Ctgs: Gray and brown limestone. Pyrite.
 707- 12-Ctgs: Brown limestone and cherty limestone.
 Brachiopod impressions.
 717- 28-Ctgs: Brown and grayish brown limestone.
 728- 61-Ctgs: Same.
 761- 71-Ctgs: Same and brown chert noted.
 771- 95-Ctgs: Same.
 795- 809-Ctgs: Grayish brown dense limestone and dark brown limestone.
 809- 22-Ctgs: Same with more brown limestone.
 822- 70-Ctgs: Same.
 870- 83-Ctgs: Same.
 Ostracods.
 883- 907-Ctgs: Same.
 907- 27-Ctgs: Same and greenish gray dense limestone.
 927- 40-Ctgs: Gray and brown dense limestone.
 940- 45-Ctgs: Same.
 945- 57-Ctgs: Same and greenish gray limestone.
 957- 69-Ctgs: Grayish brown dense limestone and greenish gray limestone.
 969- 95-Ctgs: Same.
 995-1007-Ctgs: Same.
 Ostracods noted.
 1007- 20-Ctgs: Light grayish brown limestone slightly granular.
 1020- 32-Ctgs: Same.
 1032- 45-Ctgs: Same with greenish gray granular limestone; gray shale frag. noted.
 1045- 79-Ctgs: Same.
 1079- 91-Ctgs: Same with green shaly lime.
 1091-1100-Ctgs: Same and dark green shale frag.

- 1100- 15-Ctgs: Same with increasing amount of green shaly lime, part of shale a rather vivid green.
 1115- 28-Ctgs: Gray and greenish gray limestone, green shale and shaly lime.
 1128- 40-Ctgs: Light gray finely granular limestone; dark gray shaly lime, greenish gray lime, vivid green shale, part with pyrite.
 1140- 53-Ctgs: Light greenish gray dolomite; crystalline calcite noted.
 1153- 67-Ctgs: Gray dolomite, brown granular limestone and dolomite.

Knox

- 1167- 70-Ctgs: Same.
 1169- 72-Ctgs: Same and light brown dense limestone.

Summary

Silurian	to	25'
Ordovician	25'	to
Knox	at	1153-67'

W. W. Newman

Nebo #1

SE/4 of SW/4

Sec. 32—T 5 S—R 3 E

Madison County, Ala.

Elev. 624 ft.

Began May 25, 1944

Completed July 20, 1944

- 0- 5-Ctgs: Light gray crystalline limestone, partly oolitic.

Bangor

- 5- 10-Ctgs: Same.
 10- 15-Ctgs: Light gray oolitic and crystalline limestone, fossiliferous. Crinoid stems.
 15- 30-Ctgs: Same.
 30- 35-Ctgs: Same, fossiliferous.
 35- 40-Ctgs: Light gray and brownish crystalline and oolitic limestone.
 40- 45-Ctgs: Same, fossiliferous, and finely granular limestone. Brown chert noted. Crinoid stems.
 45- 50-Ctgs: Light brown crystalline limestone and shaly lime, fossiliferous.
 50- 55-Ctgs: Brown chert noted. Light brown crystalline limestone and shaly lime, fossiliferous. Crinoid stems. Small brachiopods noted.

- 55- 60-Ctgs: Gray and brownish crystalline limestone. Part of limestone slightly granular. Elliptical **crinoid stems**; greenish shaly lime, fossiliferous.
- 60- 65-Ctgs: Same.
- 65- 70-Ctgs: Same.
Crinoid stems.
- 70- 75-Ctgs: Dark greenish gray to brown crystalline and shaly limestone, and light gray crystalline limestone.
Crinoid stems.
- 75- 80-Ctgs: Same with brown and white chert.
Crinoid stems.
Brachiopod frag.
- 80- 85-Ctgs: Light gray crystalline limestone, greenish gray limestone and white brown chert.
Crinoid stems.
- 85- 90-Ctgs: Same.
- 90- 95-Ctgs: Gray and brownish gray crystalline limestone, brown chert and vivid green shale frag. noted.
Crinoid stems.
- 95- 100-Ctgs: Gray crystalline and dense limestone, brownish gray limestone.
- 100- 05-Ctgs: Same and greenish shaly lime.
- 105- 10-Ctgs: Light brown and gray crystalline limestone, greenish gray shaly limestone.
- 110- 15-Ctgs: Same and oolitic limestone.
- 115- 20-Ctgs: Light gray crystalline and oolitic limestone.
- 120- 25-Ctgs: Same and green shaly lime.
- 125- 30-Ctgs: Same with green shaly lime.
Fenestella Bryozoa.
- 130- 35-Ctgs: Dark greenish gray finely granular and shaly limestone and light gray crystalline limestone.
Crinoid stems.
- 135- 40-Ctgs: Same with **Bryozoa frag.** and small **crinoid stems**.
- 140- 45-Ctgs: Same and light gray crystalline limestone with **crinoid stems**.

St. Genevieve ?

- 145- 50-Ctgs: Light gray crystalline limestone.
- 150- 55-Ctgs: Same, fossiliferous.
- 155- 60-Ctgs: Same with brown limestone.
- 160- 65-Ctgs: Light gray crystalline limestone, slightly fossiliferous.
Vivid green shale.
- 165- 70-Ctgs: Light gray crystalline limestone, in part oolitic. Green shale noted.
- 170- 75-Ctgs: Light gray coarsely crystalline limestone, brown limestone and green shale.
- 175- 80-Ctgs: Same and brown crystalline limestone.
Brachiopod frag.
- 180- 85-Ctgs: Same with **crinoid stems** noted.
Brachiopod frag.

- 185- 90-Ctgs: Light grayish brown oolitic limestone with asphaltic stain, and gray limestone.
190- 95-Ctgs: Light gray crystalline limestone.
195- 200-Ctgs: Same, slightly fossiliferous.
200- 05-Ctgs: Light gray crystalline limestone, fossiliferous.
Bryozoa noted.
205- 10-Ctgs: Same.
210- 15-Ctgs: Light brown crystalline limestone and chert.

Prob. Tuscumbia

- 215- 20-Ctgs: Light brown crystalline and finely granular limestone.
Chert and frag. of black shale.
220- 25-Ctgs: Brown and grayish brown finely crystalline and granular limestone with strong petroleum odor.
Elliptical crinoid stems noted.
225- 30-Ctgs: Light brown crystalline limestone.
230- 35-Ctgs: Same.
235- 40-Ctgs: Same.
Brachiopod frag. noted.
240- 45-Ctgs: Same with oolitic limestone.
245- 50-Ctgs: Light brown oolitic limestone.
Crinoid stems.
Ostracods.
Endothyra sp.
250- 55-Ctgs: Light brown crystalline limestone.
Shell frag. noted.
255- 60-Ctgs: Light brown and granular and crystalline limestone.
260- 65-Ctgs: Light brown crystalline and oolitic limestone, very fossiliferous.
Crinoid stems.
Large Ostracods.
Bryozoa.
Small Gastropods.
Endothyra sp.
265- 70-Ctgs: Light brown crystalline limestone, slightly oolitic, very fossiliferous.
Crinoid stems.
Small brachiopods.
Gastropods.
Ostracods.
Endothyra sp.
270- 75-Ctgs: Same.
Small gastropods.
275- 80-Ctgs: Brown crystalline limestone, fossiliferous; brown and white chert noted.
280- 85-Ctgs: Brown crystalline and finely granular limestone.
285- 90-Ctgs: Brown crystalline and granular limestone with white and brown and bluish chert. Large piece of brown coarsely crystalline limestone.

- 290- 95-Ctgs: Light brown granular and crystalline limestone with crystalline calcite.
- 295- 300-Ctgs: Light brown granular limestone.
Oil odor and more saturation than at any depth above, reported from Mr. W. W. Newman.
- 300- 05-Ctgs: Light brown crystalline and granular limestone, slightly fossiliferous.
- 305- 10-Ctgs: Light brown granular limestone, brown and bluish chert.

Fort Payne

- 310- 15-Ctgs: Same and white chert.
- 315- 20-Ctgs: Brown chert and slightly bluish chert, light brown finely granular limestone.
- 320- 25-Ctgs: Same and grayish brown limestone.
- 325- 30-Ctgs: Brown crystalline limestone, slightly fossiliferous; brown and bluish chert noted.
- 330- 35-Ctgs: Grayish brown crystalline and granular limestone, white chert.
- 335- 40-Ctgs: Gray crystalline limestone, slightly fossiliferous, bluish gray and brown chert.
- 340- 45-Ctgs: Same and brownish limestone.
- 345- 50-Ctgs: Gray and brown crystalline limestone, bluish gray and brown chert.
- 350- 55-Ctgs: Same and blue and brown chert.
- 355- 60-Ctgs: Gray and brown finely crystalline limestone, brown and bluish chert.
- 360- 65-Ctgs: Light and dark gray crystalline limestone, bluish and brown chert.
- 365- 75-Ctgs: Same.
- 375- 80-Ctgs: Same with increasing amount of chert.
- 380- 85-Ctgs: Same.
- 385- 90-Ctgs: Light gray crystalline limestone. **Crinoid stems noted.**
Light brown and bluish chert.
- 390- 95-Ctgs: Gray crystalline and granular limestone, bluish, white and brown chert.
- 395- 400-Ctgs: Same.
- 400- 05-Ctgs: Same with more chert.
- 405- 10-Ctgs: Light gray crystalline limestone, light brown, white and bluish chert.
- 410- 15-Ctgs: Light gray crystalline limestone, white and bluish chert.
- 415- 20-Ctgs: White and bluish chert with light gray limestone.
- 420- 35-Ctgs: Same.
- 435- 40-Ctgs: White chert, light gray finely granular limestone.
- 440- 45-Ctgs: White, bluish and brownish chert, and light gray finely crystalline limestone.
- 445- 50-Ctgs: Same.
- 450- 55-Ctgs: White and bluish chert, gray crystalline and finely granular limestone.
- 455- 65-Ctgs: Same.

- 465- 70-Ctgs: White and gray chert, and gray finely granular limestone.
 470- 80-Ctgs: Same.
 480- 85-Ctgs: Same and bluish chert.
 485- 90-Ctgs: Same.
 490- 95-Ctgs: Bluish chert and finely crystalline limestone.
 495- 505-Ctgs: Same.
 505- 10-Ctgs: Same with smoky chert.
 510- 15-Ctgs: Same and grayish brown limestone.
 515- 20-Ctgs: Same.
 520- 25-Ctgs: Same with green lime and shaly lime with small black inclusions. Inclusions of pyrite noted.
 525- 30-Ctgs: Same.
 530- 35-Ctgs: Brown limestone, white and green chert.
 535- 38-Ctgs: Same with green lime.
 538- 40-Ctgs: Black shale with pyrite inclusions, green shale with black inclusions.

Chattanooga Shale

- 540- 45-Ctgs: Black shale with pyrite inclusions, greenish gray shaly lime.
 545- 50-Ctgs: Black shale. Pyrite inclusions noted.
 550- 55-Ctgs: Black shale and black and gray sandstone; pyrite and pyrite inclusions.
 555- 60-Ctgs: Black shale and sandstone with pyrite inclusions, gray shale.
 560- 65-Ctgs: Grayish brown limestone with a grainy appearance.
 565- 70-Ctgs: Same with gray and pink-tinged coarsely crystalline limestone.

Silurian

- 570- 75-Ctgs: Gray, pink and green coarsely crystalline limestone.
 575- 80-Ctgs: Light gray and pink coarsely crystalline limestone, fossiliferous; dark gray shaly lime.
 580- 85-Ctgs: Pink, green and light gray coarsely crystalline limestone, fossiliferous.
 585- 90-Ctgs: Pink, green and light gray coarsely crystalline limestone, and green shale noted.
 590- 95-Ctgs: Same, fossiliferous.
 Crinoid stems noted.
 595- 600-Ctgs: Same.

Summary

Bangor and St. Genevieve	0'	to	210'
Prob. Tusculumbia		at	210'
In Fort Payne		at	305'
Chattanooga Shale	538'	to	560'
Silurian	560'	to	600' T.D.

W. W. Newman
 Lam #1
 SW/4 of NW/4
 Sec. 10—T 4 S—R 1 E
 Madison County, Ala.

Elev. 700 ft. Alt.
 Began Nov. 6, 1945
 Completed Feb. 16, 1946

52- 57-Ctgs: Gray crystalline limestone. White chert.

Tuscumbia

- 57- 70-Ctgs: Same.
- 70- 75-Ctgs: Medium gray limestone with white chert.
- 75- 80-Ctgs: Same with bluish chert and granular limestone.
- 80- 85-Ctgs: Medium gray finely granular and crystalline limestone with chert.
- 90- 95-Ctgs: Light gray crystalline limestone.
- 95- 100-Ctgs: Same with white and bluish chert.
- 100- 05-Ctgs: Same.
- 105- 10-Ctgs: Same with more chert.
- 110- 15-Ctgs: White cherty lime slightly stained brown and light gray limestone.
- 115- 20-Ctgs: Bluish chert and gray granular limestone.
- 120- 25-Ctgs: Same.
- 125- 30-Ctgs: Light gray crystalline and granular limestone with slight brown stain, and chert.
- 130- 35-Ctgs: Light gray finely granular and crystalline limestone.
- 135- 45-Ctgs: Same.
- 145- 50-Ctgs: Light gray bluish cherty limestone, part stained brown. Good show of oil.
- 150- 55-Ctgs: Light pearly gray granular limestone.
- 155- 60-Ctgs: Same with crystalline limestone and white chert.
- 160- 65-Ctgs: Light gray granular and crystalline limestone, white and bluish chert.
- 165- 70-Ctgs: Bluish chert and cherty limestone, small amount of granular limestone stained brown. Good show of oil.
- 175- 80-Ctgs: Light gray and bluish gray cherty limestone, slightly stained brown.

Prob. Fort Payne

- 180- 85-Ctgs: Light brownish crystalline limestone and white cherty limestone.
- 185- 90-Ctgs: White and bluish cherty limestone and finely granular limestone.
- 190- 95-Ctgs: Same with less chert.
- 195- 200-Ctgs: White and bluish chert and gray limestone.
- 200- 06-Ctgs: Same with bluish limestone.
- 206- 15-Ctgs: Blue to greenish gray limestone with **crinoid stems**.

- 215-22½-Ctgs: Greenish limestone and greenish chert, brown limestone and chert noted.
222½- 35-Ctgs: Same.
235-36½-Ctgs: Black shale with brownish black tinge, pyrite with phosphatic ? inclusions, pink and green limestone, greenish shale with black phosphatic inclusions.

Chattanooga

- 236½- 40-Ctgs: Black shale with brownish tinged, greenish gray shale with pyrite, pyrite with phosphatic ? material.
240- 50-Ctgs: Black shale frag., greenish gray shale, pyrite, gray crystalline limestone noted.
250- 60-Ctgs: Greenish gray impure limestone, slightly granular.

Silurian

- 260- 65-Ctgs: Casing seat—Light gray limestone, greenish gray shaly lime, black phosphatic inclusions noted.
Coral and brachiopod frag.
265- 80-Ctgs: Dark brown and gray limestone.
Brachiopods and other shells.
280- 300-Ctgs: Brown and greenish gray limestone, with small phosphatic inclusions.
300- 10-Ctgs: Greenish gray limestone with pyrite and slightly reddish limestone.
310- 20-Ctgs: Gray and greenish limestone and reddish limestone.
320- 30-Ctgs: Same with more dark reddish limestone.
330- 45-Ctgs: Same.
345- 55-Ctgs: Gray and very dark gray limestone, fossiliferous, slightly phosphatic.
Brachiopod and coral frag.

Prob. Trenton

- 355- 70-Ctgs: Same.
370- 75-Ctgs: Same with brown limestone.
375- 80-Ctgs: Gray and brown finely crystalline limestone.
380- 85-Ctgs: Same.
385- 90-Ctgs: Gray and dark brown crystalline and finely granular limestone.
390- 400-Ctgs: Greenish gray finely crystalline limestone and brownish gray limestone.
410- 20-Ctgs: Greenish gray finely crystalline limestone.
420- 45-Ctgs: Same.
445- 55-Ctgs: Same with brownish gray dense limestone. Green streaks noted in limestone.
Ostracods.
455- 60-Ctgs: Greenish gray and brownish gray finely crystalline limestone, slightly fossiliferous. Brown cherty lime noted.
460- 65-Ctgs: Same.
465- 75-Ctgs: Dark brownish gray limestone and black shaly lime, slightly phosphatic.

- 475- 80-Ctgs: Dark brownish gray crystalline limestone.
 480- 90-Ctgs: Same and black shaly lime.
 490- 500-Ctgs: Greenish gray finely granular limestone, dark brownish gray finely granular limestone.
 500- 10-Ctgs: Brown and dark brown finely granular limestone.
 510- 20-Ctgs: Grayish brown finely granular limestone.
 520- 25-Ctgs: Grayish brown finely granular limestone.
 525- 30-Ctgs: Same and grayish brown crystalline limestone, slightly phosphatic ?
Show of oil.
 530- 35-Ctgs: Medium gray and brownish black finely granular limestone, slightly phosphatic ?, black phosphatic ? shale noted.
Show of oil.
 540- 50-Ctgs: Same.
 550- 57-Ctgs: Same and black shale noted.
 557- 62-Ctgs: Gray granular limestone.
 562- 67-Ctgs: Gray to black very phosphatic limestone and gray granular limestone, dark gray and greenish gray shale.
 567- 75-Ctgs: Light brown dense and crystalline limestone.

Prob. Black River

- 575- 80-Ctgs: Same and greenish gray and brown bentonitic shale with mica flakes—biotite. Pyrite noted.

Prob. Pencil Cave

- 580- 85-Ctgs: Medium grayish brown dense limestone and frag. of greenish gray soft bentonitic shale. Brown chert noted.
 585- 90-Ctgs: Same with brown cherty limestone.
 590- 95-Ctgs: Brown dense limestone and chert. Brown mica flakes, green bentonitic shale from above.
 595- 600-Ctgs: Brown dense limestone.
 600- 05-Ctgs: Same with slightly sandy limestone noted.
 605- 10-Ctgs: Light brown dense limestone.
 610- 15-Ctgs: Grayish brown finely granular limestone.
 615- 20-Ctgs: Brown dense limestone.
 625- 30-Ctgs: Same.
 630- 35-Ctgs: Same with considerable crystalline calcite.
 635- 40-Ctgs: Grayish brown crystalline and granular limestone.
 640- 45-Ctgs: Same. Salt and sulphur water.
 645- 75-Ctgs: Same.
 675- 90-Ctgs: Same, fossiliferous.
 Brachiopods and frag.

Ordovician

- 590- 705-Ctgs: Light brown crystalline and granular limestone.
 Brachiopod noted.
 705- 15-Ctgs: Brown finely granular limestone.
 715- 20-Ctgs: Same.
 720- 40-Ctgs: Grayish brown dense limestone.
 740- 60-Ctgs: Same.

- 760- 75-Ctgs: Light brown dense and granular limestone.
 775- 80-Ctgs: Same.
 Oil stain ?—test was negative.
 780- 85-Ctgs: Light brown and buff-colored granular limestone.
 More oil stain than in preceding sample—test negative.
 785- 90-Ctgs: Same.
 790- 95-Ctgs: Brown granular limestone.
 Strong oil stain—test negative.
 795- 805-Ctgs: Brown and buff-colored granular limestone.
 805- 10-Ctgs: Brown granular limestone.
 810- 15-Ctgs: Brown limestone with oil ? stain.
 test show trace of oil.
 815- 20-Ctgs: Brown and drab-colored crystalline and granular limestone.
 820- 25-Ctgs: Brown granular limestone.
 825- 35-Ctgs: Brown granular limestone.
 835- 45-Ctgs: Brown crystalline and granular limestone.
 Ostracods noted.
 845- 55-Ctgs: Brown granular and crystalline limestone.
 855- 65-Ctgs: Brown dense and crystalline limestone.
 Ostracods noted.
 865- 70-Ctgs: Gray dense limestone.
 870- 75-Ctgs: Same and finely granular limestone.
 875- 90-Ctgs: Same.
 890- 95-Ctgs: Same with crystalline limestone.
 895- 900-Ctgs: Grayish brown dense and crystalline limestone, fossiliferous.
 900- 05-Ctgs: Same.
 905- 10-Ctgs: Medium gray dense limestone.
 910- 15-Ctgs: Same.
 915- 20-Ctgs: Same with pyrite; greenish gray bentonitic shale frag. noted.
 920- 25-Ctgs: Medium gray and brownish gray crystalline limestone.
 925- 30-Ctgs: Dark gray dense limestone.

Summary

Tuscumbia and Fort Payne	.....	to	235'
Chattanooga	.....	235'	to 250'
Silurian	.....	250'	to 345'
Ordovician	.....	345'	to 930' T.D.

W. A. Taylor & Wayne E. Bryson
 Elizabeth Lowe Johnston)
 & Katie Mae O'Neal) Lowe Estate #1
 NW/4 of NW/4
 Sec. 20—T 1 S—R 1 E
 Madison County, Ala.

Began January 10, 1954

- 47- 50-Ctgs: Light gray coarsely crystalline limestone with **crinoid stems** and greenish lime. Bluish chert.
 50- 55-Ctgs: Same with green calcareous shale and gray and green limestone.
 Crinoid stems.

New Providence

- 55- 60-Ctgs: Green shale and light gray lime with abundant **crinoid stems** embedded. Small dark specks encrusting part of material.
 60- 65-Ctgs: Same and brownish black shale with fine pyrite.

Chattanooga

- 65- 70-Ctgs: Brownish black shale with fine pyrite.
 Spores noted.

Gap

- 75- 80-Ctgs: Black shale and gray limestone with chert.
 80- 95-Ctgs: Gray granular limestone with glauconite.

Silurian

- 95- 100-Ctgs: Gray granular limestone with coarse glauconite and pyrite. Part of limestone very glauconitic.
 100- 05-Ctgs: Greenish shale, gray shale and sandy lime. Phosphatic material in matrix of green shale. **Bryozoa**. Coarse sand grains noted.
 105- 10-Ctgs: Gray and yellowish coarsely crystalline limestone slightly pink tinged, fossiliferous.
 110- 15-Ctgs: Gray sandy lime with very small black inclusions.
 115- 20-Ctgs: Pink, gray and green coarsely crystalline limestone.
 120- 25-Ctgs: Same and greenish gray lime and shale.
 125- 30-Ctgs: Same and light gray sandy lime.
 130- 35-Ctgs: Yellowish and pink coarsely crystalline limestone, fossiliferous, and greenish sandy lime.
 135- 40-Ctgs: Greenish and gray fine-grained sandstone and sandy lime.
 140- 45-Ctgs: Same.
 145- 50-Ctgs: Gray lime with black phosphatic inclusions.

Ordovician

- 150- 55-Ctgs: Gray limestone with small black phosphatic inclusions and green shaly lime.
 155- 60-Ctgs: Same with more green shaly lime.
 160- 65-Ctgs: Same with more green lime carrying fine pyrite.

- 165- 70-Ctgs: Dark gray and greenish lime.
170- 75-Ctgs: Same with pyrite and small dark inclusions.
175- 80-Ctgs: Same.
180- 85-Ctgs: Green and reddish shaly lime.
185- 200-Ctgs: Same.
200- 05-Ctgs: Gray crystalline limestone with small black inclusions noted. Greenish lime.
205- 10-Ctgs: Dark gray and buff-colored limestone.
210- 15-Ctgs: Dark gray lime, phosphatic ? inclusions noted.
215- 20-Ctgs: Buff-colored limestone. Small black inclusions noted.
220- 25-Ctgs: Same and dark gray limestone, almost black.
225- 30-Ctgs: Gray and dark gray limestone with small black inclusions.
230- 45-Ctgs: Same.
245- 50-Ctgs: Dark brownish gray finely granular limestone.
250- 55-Ctgs: Gray and dark gray limestone with small black inclusions.
255- 70-Ctgs: Same.
270- 75-Ctgs: Greenish and gray finely granular limestone.
275- 80-Ctgs: Same with fine pyrite.
280- 85-Ctgs: Same.
285- 90-Ctgs: Same with gray crystalline limestone.
290- 95-Ctgs: Gray limestone with small black inclusions. Brown limestone.
295- 300-Ctgs: Greenish gray finely granular limestone.
300- 05-Ctgs: Same and frag. with black phosphatic inclusions.
305- 15-Ctgs: Same.
315- 20-Ctgs: Brownish gray lime.
320- 25-Ctgs: Same.
325- 30-Ctgs: Greenish finely granular limestone.
330- 35-Ctgs: Brown and gray finely granular and dense limestone.
335- 40-Ctgs: Greenish and brown finely granular limestone.
340- 45-Ctgs: Same.
345- 50-Ctgs: Brown finely granular limestone.
350- 55-Ctgs: Brown dense limestone.

Black River

- 355- 60-Ctgs: Light gray dense limestone.
360- 65-Ctgs: Brown dense and finely granular limestone.
365- 70-Ctgs: Buff-colored dense limestone.
370- 75-Ctgs: Brown finely granular limestone.
375- 85-Ctgs: Same.
385- 90-Ctgs: Buff-colored dense limestone.
390- 95-Ctgs: Dark brownish gray dense and finely granular limestone.
395- 400-Ctgs: Greenish gray finely granular limestone.
400- 05-Ctgs: Gray finely granular limestone, part with phosphatic inclusions.
405- 10-Ctgs: Gray limestone and shaly lime with phosphatic inclusions.
410- 15-Ctgs: Gray sandy lime with phosphatic inclusions. **Small gastropods** replaced by phosphatic material.
415- 20-Ctgs: Same.
420- 25-Ctgs: Gray limestone with phosphatic material.

425-	30-Ctgs:	Gray limestone with abundant phosphatic material.
430-	35-Ctgs:	Same.
435-	40-Ctgs:	Gray sandy lime and shale.
440-	45-Ctgs:	Same with phosphatic material, fossiliferous.
445-	50-Ctgs:	Same.
		Small pelecypod replacement by phosphatic material.
450-	55-Ctgs:	Brownish gray dense limestone.
455-	65-Ctgs:	Same.
465-	70-Ctgs:	Light brownish gray dense limestone.
470-	75-Ctgs:	Brownish gray dense limestone.
480-	85-Ctgs:	Brown and gray dense limestone.
485-	90-Ctgs:	Gray dense limestone.
490-	500-Ctgs:	Same.
515-	20-Ctgs:	Gray limestone, with soft gray clay.
530-	35-Ctgs:	Light and dark gray limestone.
535-	40-Ctgs:	Same.
		Brachiopods noted.

Summary

New Providence	at.....	50'
Chattanooga Shale	at.....	60-65'
Silurian	at.....	80-95'
Ordovician	at.....	145-50'

MARION COUNTY

Seaboard Oil Company

J. F. Clark No. 1-A

SE/4 of SW/4

Sec. 28—T 11 S—R 14 W

Marion County, Ala.

Elev. 371 ft.

Began May 31, 1940

Comp. September 25, 1940

- 20- 24-Ctgs: Coarse sub-angular sand, medium-grained etched sand; chert and chert pebbles.
- 25- 30-Ctgs: Fossiliferous chert pebbles, sand as in preceding sample; red and yellow chert and greenish gray medium-grained sandstone.
- 30- 35-Ctgs: Same with more sand.
- 35- 40-Ctgs: Same and gray fine-grained sandstone with carbonaceous ? material.

Pennsylvanian

- 40- 45-Ctgs: Medium to fine-grained light gray sand and sandstone with mica; part of sand grains etched, part with good crystal faces. Chert from above.
- 50- 55-Ctgs: Medium, fine and coarse-grained gray sand, part milky, with mica and carbonaceous material. Pyrite; etched quartz grains, part with crystal faces.
- 55- 65-Ctgs: Same.
- 65- 70-Ctgs: Same with occasional large quartz grains rounded.
- 70- 75-Ctgs: Same.
- 75- 80-Ctgs: Same. Pyrite.
- 85- 95-Ctgs: Medium to fine-grained sand, part stained yellow.
- 95- 100-Ctgs: Medium, coarse and fine-grained gray sand. Mica.
- 100- 07-Ctgs: Same.
- 107- 16-Ctgs: Same with frag. of gray micaceous, carbonaceous shale.
- 115- 23-Ctgs: Quartz pebbles and medium-grained sand, part stained yellow.
- 123- 30-Ctgs: Quartz pebbles and coarse sand. Pyrite.
- 130- 35-Ctgs: Same.
- 135- 40-Ctgs: Same. Pebbles composed of milky quartz.
- 140- 45-Ctgs: Very fine sand, coarse etched and sub-angular sand. Quartz pebbles.
- 146- 52-Ctgs: Quartz pebbles, medium to coarse sand, medium gray shale, carbonaceous material. Pyrite. Coal ?
- 152- 60-Ctgs: Coal and black shale. Medium-grained tan or buff-colored sandstone, calcareous.
Echinoid stems.
Small pelecypod.

- 160- 64-Ctgs: Light gray fine-grained micaceous sandstone. Pyrite. Frag. of dark gray to black shale. Limestone frag. noted.
- 164- 75-Ctgs: Coarse sand and pebbles; pyrite; fine-grained gray sandstone, gray to black shale frag.
- 175- 83-Ctgs: Greenish gray sandy shale with mica, light gray fine-grained micaceous sandstone.
- 183- 90-Ctgs: Light gray hard fine-grained micaceous sandstone, dark gray micaceous shale and black shale.
- 190- 96-Ctgs: Hard light gray fine-grained micaceous sandstone, dark gray micaceous carbonaceous shale and sandy shale.
- 196- 99-Ctgs: Light gray fine-grained sand and sandstone, part with carbonaceous material; dark gray micaceous carbonaceous shale.
- 199- 206-Ctgs: Light gray medium to fine-grained micaceous sandstone, dark gray micaceous shale; brown claystone. Pyrite.
- 206- 10-Ctgs: Light gray fine-grained sand and frag. of sandstone; dark gray micaceous carbonaceous shale; mica.
- 210- 15-Ctgs: Same.
- 215- 20-Ctgs: Same with increasing amount of sandstone and shale.
- 220- 25-Ctgs: Same. Probably more mica.
- 225- 34-Ctgs: Light gray medium-grained sand. Mica and frag. of gray micaceous shale.
- 234- 40-Ctgs: Light gray fine-grained micaceous sandstone and sand, dark gray micaceous, carbonaceous shale frag.
- 240- 47-Ctgs: Light greenish gray fine sandy shale with mica; dark gray micaceous, carbonaceous shale. Medium-grained sand.
- 247- 51-Ctgs: Dark gray to black micaceous shale, greenish gray fine sandy shale, medium-grained sand and sandstone.
- 251- 56-Ctgs: Brown impure limestone with sand, fossiliferous. Small gastropods. Pelecypod frag.
- 256- 62-Ctgs: Brown sandy fossiliferous limestone with **Productus ? spines**; dark gray to black shale. Crinoid stems. Ostracods. Small gastropods.
- 262- 68-Ctgs: Dark gray to black shale and frag. of brown sandy fossiliferous limestone. Crinoid stems.
- 266- 73-Ctgs: Same and gray fine-grained sandstone.
- 273- 76-Ctgs: Light gray fine-grained sandstone; medium-grained sand, part with crystal faces; dark gray to black micaceous. carbonaceous shale. Pyrite.
- 276- 82-Ctgs: Light gray fine and medium-grained micaceous sandstone; dark gray and black micaceous, carbonaceous shale.
- 282- 86-Ctgs: Light greenish gray very fine-grained sandstone, dark gray to black micaceous, carbonaceous shale; medium-grained sand, part with crystal faces.

- 286- 91-Ctgs: Same.
291- 96-Ctgs: Fine-grained gray sand, frag. of gray micaceous, carbonaceous shale.
296- 300-Ctgs: Same.
300- 05-Ctgs: Medium-grained sand and sandstone; quartz with crystal faces, part etched; gray fine-grained sandstone; dark gray to black micaceous, carbonaceous shale.
305- 14-Ctgs: Same.
314- 25-Ctgs: Medium-grained etched sand, part with crystal faces.
325- 28-Ctgs: Light gray medium-grained etched sand; mica; occasional coarse sand grains; pyrite and carbonaceous material noted.
328- 35-Ctgs: Same and fine-grained sand.
335- 40-Ctgs: Fine and medium-grained sand with etched faces. Mica.
340- 45-Ctgs: Medium-grained and fine sand. Mica.
345- 50-Ctgs: Same. Pyrite.
350- 57-Ctgs: Same.
357- 63-Ctgs: Light gray fine-grained micaceous, carbonaceous sandstone; medium-grained micaceous sandstone; black micaceous, carbonaceous shale. Pyrite; occasional coarse sand grains.
363- 68-Ctgs: Same and buff-colored clay.
368- 71-Ctgs: Same and buff-colored calcareous clay; sandy clay.
371- 77-Ctgs: Same and brown clay.
377- 83-Ctgs: Light gray fine-grained micaceous sandstone; medium-grained sand; dark gray micaceous, carbonaceous shale and sandy shale; brown claystone.
Crinoid stem ?
Ostracod ? noted.
388- 97-Ctgs: Same and brown medium-grained sandstone with mica, slightly calcareous.
397- 403-Ctgs: Same and micaceous, carbonaceous sandstone.
403- 08-Ctgs: Medium to fine-grained gray and brown sand; frag. of gray micaceous shale.
408- 15-Ctgs: Same with mica.
415- 23-Ctgs: Same and carbonaceous sandy shale.
423- 25-Ctgs: Same and gray micaceous shale.
425- 34-Ctgs: Light gray medium-grained sand, etched; gray micaceous carbonaceous shale frag.
434- 36-Ctgs: Same and pyrite noted.
436- 46-Ctgs: Same and fine sand.
446- 49-Ctgs: Light gray fine-grained sand with mica.
449- 55-Ctgs: Same and sandy carbonaceous shale; considerable pyrite.
455- 60-Ctgs: Same and black shale frag.
460- 78-Ctgs: Same.
478- 83-Ctgs: Fine-grained and medium gray sand; gray micaceous, carbonaceous shale and sandy shale.
483- 95-Ctgs: Coarse and medium-grained gray sand; pyrite; gray micaceous, carbonaceous shale.

- 495- 501-Ctgs: Medium-grained coarse and fine-grained gray sand; brownish gray sandstone, pyrite.
- 501- 06-Ctgs: Same. Carbonaceous material.
Crinoid stems noted.
- 506- 10-Ctgs: Same.
- 510- 15-Ctgs: Light brown and grayish crystalline and sandy limestone; gray hard fine-grained micaceous sandstone, gray micaceous shale and sandy shale.
- 515- 21-Ctgs: Black micaceous, carbonaceous shale and sandy shale; light gray hard fine-grained micaceous sandstone; light brown limestone and sandy limestone.
- 521- 31-Ctgs: Black micaceous, carbonaceous shale, gray hard fine-grained sandstone, frag. of brown lime.
- 531- 34-Ctgs: Same, with increasing amount of light brown limestone.
Small crinoid stems.
- 534- 40-Ctgs: Light gray hard fine-grained sandstone, dark gray micaceous, carbonaceous shale and sandy shale.
- 540- 44-Ctgs: Same and frag. of hard brown non-calcareous sandstone.
- 544- 48-Ctgs: Same.
- 548- 52-Ctgs: Light gray hard very fine-grained sandstone; an abundance of dark brown non-calcareous concretions.
- 552- 60-Ctgs: Same, with hard brown claystone; gray shale frag.
- 560- 63-Ctgs: Same and gray carbonaceous shale.
- 563- 74-Ctgs: Same.
- 574- 80-Ctgs: Black micaceous, carbonaceous shale, light gray hard fine-grained micaceous sandstone.
- 580- 89-Ctgs: Same.
- 589- 95-Ctgs: Same and chert from above.
- 595- 601-Ctgs: Same with gray sandy shale and brown claystone.
- 601- 05-Ctgs: Same.
- 605- 10-Ctgs: Gray fine-grained micaceous, carbonaceous sandstone; brown claystone.
- 610- 15-Ctgs: Same, and dark gray to black micaceous, carbonaceous shale.
- 616- 21-Ctgs: Same, with more black micaceous, carbonaceous shale.
- 621- 25-Ctgs: Same and frag. of dark red sandstone.
- 625- 29-Ctgs: Same and brown sandstone.
- 629- 34-Ctgs: Same.
- 634- 37-Ctgs: Gray and black micaceous shale; light gray hard fine-grained micaceous sandstone; hard brown sandstone.
- 637- 40-Ctgs: Same, and dark gray shale.
- 640- 45-Ctgs: Same.
- 645- 50-Ctgs: Same with more black shale.
- 650- 55-Ctgs: Same.
- 653- 55-Ctgs: Same and medium-grained sand and micaceous, carbonaceous sandstone. Crystalline calcite noted.
- 655- 59-Ctgs: Light gray hard fine-grained micaceous, carbonaceous sandstone; black and gray micaceous, carbonaceous shale and sandy shale.

- 659- 66-Ctgs: Light gray fine-gr. sand. Mica.
666- 70-Ctgs: Same and gray mic., carb. shale and sandy shale.
670- 75-Ctgs: Same and brown sandstone.
675- 78-Ctgs: Same and carb. material.
678- 98-Ctgs: Med.-gr. sand, part with crystal faces; mica; pyrite.
698- 703-Ctgs: Hard light gray mic. fine-gr. sandstone, part with black shale lenses; brown carb. material; hard brown clay and sandy clay.

703- 14-Ctgs: Same and gray shale with carb. material.
714- 20-Ctgs: Same and frag. of brown and gray crystalline lime. Ostracods.

720- 25-Ctgs: Same.
Small crinoid stems.
725- 45-Ctgs: Same and brown sandstone with **Ostracods noted**.
745- 52-Ctgs: Med.-gr. to coarse sand. Dark gray sandy mic., carb. shale.
752- 56-Ctgs: Dark gray to black mic., carb. shale and sandy shale. frag. of sandstone and sand.
756- 60-Ctgs: Med. gray fine-gr. mic., carb. sandstone, part with shale lenses; brown claystone.
760- 86-Ctgs: Same and lime frag.
786- 93-Ctgs: Same. Carb. material; gray sandy shale, fossiliferous in part. Gray to black mic., carb. shale.
Shell frag.
Crinoid stems.
793- 800-Ctgs: Black sandy mic., carb. shale; light gray fine-gr. sandstone.
Crinoid stems.
Shell frag.
800- 07-Ctgs: Light gray fine and med.-gr. mic. sandstone; hard brown sandstone; gray mic., carb. shale.
807- 13-Ctgs: Same and brown claystone.
813- 19-Ctgs: Dark gray mic., sandy shale; black mic., carb. shale. Sand. Light gray hard sandstone.
919- 24-Ctgs: Gray and brownish gray shale; part with brown nodular concretions; gray and dark red shale, all non-calcareous.

Pennington

- 824- 26-Ctgs: Same with hard light gray sandy shale, non-calcareous, and an increasing amount of red shale. Small brown concretions, abundant.
826- 33-Ctgs: Dark red shale; gray shale; brown concretions.
833- 41-Ctgs: Med. gray shale and sandy shale, part with brown concretions; brown sandy shale; dark red shale; gray mic., carb. shale. Light gray hard very fine-gr. mic. sandstone.
841- 49-Ctgs: Greenish gray shale with brown concretions; gray mic. shale and sandy shale; dark red and gray mic. shale; light gray hard fine-grained sandstone with brown concretions; dark red shale carrying brown concretions.

- 849- 65-Ctgs: Black mic. shale and sandy shale; dark red and brown shale; greenish gray hard fine-grained sandstone. Pyrite. Brown concretions.
- 865- 77-Ctgs: Black mic. shale and sandy shale; hard brown clay and shale; dark red shale frag., frag. of lime.
- 877- 85-Ctgs: Same with fine sand.
- 885- 90-Ctgs: Greenish gray and brown fine sandy shale; part mic.; frag. of red sandy shale. Fine-gr. sand. Brown concretions.
- 890- 95-Ctgs: Light gray fine-gr. sand and frag. of light gray fine-grained sandstone and sandy shale. Green shale with brown concretions.
- 895- 905-Ctgs: Medium-grained gray limestone with abundant **crinoid stems**. **Brachiopod** with **spine frag.** **Crinoid stems** from black shaly matrix.
- 905- 13-Ctgs: Brown fossiliferous limestone, dark greenish gray shaly lime; greenish gray sandy shale. **Crinoid stems**; brown concretions. Reddish brown shale with concretions. Ostracods noted.
- 913- 21-Ctgs: Same with more grayish brown limestone carrying an abundance of **crinoid stems**; medium-grained sand, dark gray shale with **Productus sp.**
Bryozoa.
Large Crinoid stems.
Small brachiopod noted.
- 921- 25-Ctgs: Light brownish gray crystalline limestone and green shale. **Crinoid stems**; **brachiopod frag.** and **spines**. Greenish gray dense limestone with **brachiopod spines**. Fenestella Bryozoa.
- 925- 33-Ctgs: Same and dense brown limestone. Greenish gray shale with **Fenestella Bryozoa** and with **brachiopod valve**.
- 935- 45-Ctgs: Same with black shaly lime with **brachiopod**.
Crinoid stems.
Bryozoa.
- 945- 62-Ctgs: Same and dark gray mic., carb. shale, fossiliferous.
- 962- 70-Ctgs: Same. Pyrite. Hard brown claystone. Crystalline calcite.
Small gastropods.
- 970- 75-Ctgs: Brown and gray crystalline limestone. Gray fossiliferous shale; black and gray mic., fossiliferous shale; black limestone.
Crinoid stems.
- 975- 77-Ctgs: Same.
- 977- 85-Ctgs: Brownish black limestone, shale, chert, gray limestone frag.
- 985- 92-Ctgs: Same and green shale, and large gray lime concretions.
- 992-1000-Ctgs: Dark brown crystalline limestone, red and green clay-gray lime concretions; black inclusions.

- 1000- 13-Ctgs: Greenish gray crystalline limestone, red and green shale.
Crinoid stems.
- 1013- 21-Ctgs: Same and green mic. shale, sandy.
- 1021- 25-Ctgs: Same. Green lime and green sandy mic. shale.
- 1025- 30-Ctgs: Dark gray mic., carb. sandy shale; black inclusions; light gray limestone; red and green shale.
- 1030- 36-Ctgs: Dark gray sandy shale; brownish black crystalline and green clay.
- 1036- 44-Ctgs: Brownish black limestone; oolitic; green and red shale; black and gray concretions; gray carb. shale; frag. of gray limestone.
Ostracods.
- 1044- 48-Ctgs: Dark red and green shale; greenish gray limestone.
Brownish black crystalline limestone.
- 1048- 60-Ctgs: Dark red and green shale; greenish gray limestone.
- 1060- 64-Ctgs: Brownish black med.-gr. slightly calcareous sandstone, part closely cemented; asphaltic ? residue. Black shale.
- 1064- 70-Ctgs: Same, and brown fine-gr. sandstone, dark gray mic., carb. shale.
- 1070- 75-Ctgs: Light gray crystalline limestone, red and green and gray shale.
Crinoid stems.

Bangor

- 1075- 93-Ctgs: Light gray crystalline limestone, fossiliferous.
- 1093- 96-Ctgs: Same. Part of limestone, stained brown.
Coral frag.
- 1096-1108-Ctgs: Same and oolitic limestone.
- 1108- 12-Ctgs: Light gray and brown limestone and gray carbonaceous shale.
- 1112- 15-Ctgs: Light gray and brown crystalline limestone and green shale.
Large Crinoid stems noted.
- 1115- 18-Ctgs: Light gray and brown crystalline limestone, fossiliferous; and granular limestone.
- 1118- 21-Ctgs: Same and brown oolitic limestone.
Large crinoid stems.
- 1121 25-Ctgs: Brown crystalline limestone, part oolitic.
- 1125- 31-Ctgs: Gray and brownish gray crystalline limestone.
- 1130- 32-Ctgs: Dark brown granular and crystalline limestone, fossiliferous; black fossiliferous shale.
- 1131- 34-Ctgs: Greenish gray shale with carb. material; brown crystalline limestone with pyrite; dark red shale.
- 1134- 41-Ctgs: Gray and brown limestone. Brown chert.
- 1141- 46-Ctgs: Same and dark gray limestone. Brown coarsely crystalline limestone.
- 1146- 51-Ctgs: Same and black shale and limey shale.
- 1151- 58-Ctgs: Brown crystalline limestone with black inclusions.
Crinoid stems.
Shells.

- 1158- 75-Ctgs: Same and brown chert; large **crinoid stems**. Black shale. Bryozoa.
- 1175- 78-Ctgs: Light and dark brown crystalline limestone, fossiliferous; dark gray shale with **Fenestella Bryozoa**.
- 1178- 82-Ctgs: Same and dark brown granular limestone. Black shale streaks in brown limestone.
- 1182- 86-Ctgs: Light gray and brown granular and crystalline limestone, fossiliferous, with black inclusions; brown chert.
- 1186- 98-Ctgs: Same. Black shale. Crinoid stems.
- 1198-1210-Ctgs: Brown granular limestone and shaly limestone, fossiliferous. Crinoid stems. Brachiopod and brachiopod spines ?
- 1210- 16-Ctgs: Same and black fossiliferous shale.
- 1216- 27-Ctgs: Light brown limestone; dark brown granular and crystalline limestone, fossiliferous; black shale. Shell frag. Bryozoa. Crinoid frag. Brachiopods. Ostracods.
- 1227- 30-Ctgs: Same.
- 1232- 50-Ctgs: Same and grayish brown shaly lime. Brown limestone carrying **Ostracods**.
- 1250- 61-Ctgs: Brown granular limestone, brownish black shaly lime, fossiliferous. Black shale. Ostracods.
- 1261- 66-Ctgs: Dark brown granular fossiliferous limestone; black shaly lime.
- 1266- 77-Ctgs: Same and brown chert.
- 1277- 87-Ctgs: Same and buff-colored limestone. Black shaly fossiliferous lime.
- 1287-1301-Ctgs: Same. Pyrite noted in limestone.
- 1301- 05-Ctgs: Same with more brown chert.
- 1305- 10-Ctgs: Same and greenish gray carb. shale frag.
- 1310- 14-Ctgs: Same and dark brown limestone, very fossiliferous. Ostracods.
- 1314- 17-Ctgs: Black shaly lime with **Fenestella Bryozoa**. Other Bryozoa.
- 1317- 20-Ctgs: Same and black fossiliferous shale. Crinoid stems. Shell frag.
- 1320- 41-Ctgs: Same, with more black shaly lime, fossiliferous. Shell frag. Bryozoa.
- 1341- 43-Ctgs: Same with less black shale.
- 1343- 52-Ctgs: Same with gray lime.
- 1352- 67-Ctgs: Same and black fossiliferous shale.

- 1367- 80-Ctgs: Same with increasing amount of brown chert.
- 1380- 84-Ctgs: Same with increasing amount of black shale.
- 1384- 88-Ctgs: Same with black fossiliferous shale.
Ostracods.
- 1388- 91-Ctgs: Dark brown limestone, part with pyrite; dark gray to black shale; black shale with **Ostracods**.
- 1391- 97-Ctgs: Dark brown granular limestone; light gray limestone. Black shale.
- 1397-1425-Ctgs: Same with less chert.
- 1425- 34-Ctgs: Same and dark brown chert with black inclusions.
- 1434- 39-Ctgs: Same with more black shale.
- 1439- 42-Ctgs: Same with chert containing pyrite inclusions.
- 1442- 46-Ctgs: Same and brown cherty limestone, fossiliferous.
- 1446- 52-Ctgs: Same with considerable dark gray shale, part fossiliferous.
- 1452- 58-Ctgs: Black soft fossiliferous shale, brown crystalline limestone. Pyrite.
Productus frag.
Other shells.
Ostracods.
- 1458- 65-Ctgs: Dark brown fossiliferous limestone; dark gray shale. Shell frag.
- 1465- 70-Ctgs: Same. Pyrite.
Pelecypod frag.
Ostracods.
- 1470- 75-Ctgs: Black fossiliferous shale. Pyrite.
Shell frag. abundant.
Ostracods.
- 1475- 80-Ctgs: Black and dark gray shale, part fossiliferous; hard brown claystone; brown crystalline limestone. Crystalline calcite. Pyrite.
Small pelecypods in black shale matrix.
Crinoid stems.
- 1480- 85-Ctgs: Same.
Other shell frag.
Small pelecypods.
- 1485- 91-Ctgs: Dark gray shale with carb. material and brown claystone; frag. of brown limestone.
- 1491- 97-Ctgs: Dark gray and black fossiliferous shale, part carb. and with mica.
Shell frag.
- 1497-1501-Ctgs: Black shale, part fossiliferous.
Small pelecypods.
- 1501- 03-Ctgs: Black and dark gray shale, part very fossiliferous. Pyrite.
Crinoid stems.
Ostracods.
Other fossils.

- 1503- 10-Ctgs: Same and dark gray fossiliferous shale.
Crinoid stems.
Pelecypods and gastropods.
Ostracods.
- 1510- 15-Ctgs: Same and brown limestone frag.
Ephemus sp.
Small gastropods.
Small pelecypods in gray shale matrix.
- 1515- 20-Ctgs: Black and dark gray shale, part fossiliferous. Pyrite.
Euphemus sp.
Cephalopod frag.
- 1520- 27-Ctgs: Dark gray shale, part fossiliferous.
Euphemus sp.
Pelecypods.
- 1527- 32-Ctgs: Black and dark gray shale.
Shells.
Small gastropods.
Euphemus sp.
- 1532- 40-Ctgs: Same.
- 1540- 47-Ctgs: Dark gray and black shale; frag. of brown limestone.
Shell frag.
- 1547- 52-Ctgs: Dark gray to black shale.
- 1552- 58-Ctgs: Same and frag. of dark brown crystalline limestone.
- 1558- 66-Ctgs: Dark gray to black fossiliferous shale; dark brown fossiliferous shale. Crinoid stems noted.
- 1566- 71-Ctgs: Black calcareous shale; dark brown limestone.
- 1571- 82-Ctgs: Black calcareous shale.
- 1582- 89-Ctgs: Same and **shell frag.** Crystalline calcite. Pyrite.
- 1589-1605-Ctgs: Same and dark brown crystalline limestone.
Shell frag.
Crinoid stems.
- 1605- 12-Ctgs: Black fossiliferous shale carrying pyrite; and dark brown crystalline limestone; frag. of dark gray slightly sandy lime.
Cephalopod frag. ?
- 1612- 18-Ctgs: Black and dark gray fossiliferous shale; pyrite; brown sandy shaly lime.
- 1618- 36-Ctgs: Dark gray fossiliferous calcareous shale. Dark brown limestone.
Shell frag.
- 1636- 52-Ctgs: Black calcareous shale.
Crinoid stems.
Shell frag.
- 1652- 60-Ctgs: Same and medium-gr. light colored sand.
- 1660-1746-Ctgs: Dark brown dense impure lime.
- 1746- 55-Ctgs: Same and black carb. shale.
- 1755- 63-Ctgs: Black and dark gray carb. shale.
- 1763- 73-Ctgs: Same and carb. shale; medium gray quartzitic sandstone, fine-grained sandstone, with asphaltic ? residue.

- 1773- 87-Ctgs: Black carb. shale; dark brown quartzitic sandstone.
1787- 97-Ctgs: Black carb. shale and sandstone frag.
1797-1804-Ctgs: Same and limestone frag.
Crinoid stems.

Gasper

- 1804- 17-Ctgs: Light gray and brownish gray crystalline and granular limestone, fossiliferous.
1817- 23-Ctgs: Same. Limestone with black inclusions.
Crinoid stems.
1823- 28-Ctgs: Brown quartzitic medium-gr. calcareous sandstone and sand; greenish gray shale.

Bethel

- 1828- 35-Ctgs: Same, with brown limestone and **crinoid stems**.
1835- 40-Ctgs: Gray and brown limestone; greenish gray shale. **Crinoid stems**. White cherty limestone.

Tuscumbia

- 1840- 45-Ctgs: Black carb. shale; gray fossiliferous shale; brown quartzitic sandstone, gray and brown limestone and white cherty limestone.
Crinoid stems.
1845- 57-Ctgs: Gray and brown crystalline limestone with weathered appearance, fossiliferous; white cherty limestone.
Crinoid stems.
1857- 64-Ctgs: White cherty oil (?) stained limestone with small cavities showing oil stain; brown crystalline limestone.
1864- 70-Ctgs: Same and white chert.
1870- 90-Ctgs: Brownish crystalline limestone; white cherty limestone.
White chert.
1890- 95-Ctgs: White and brown stained crystalline limestone. Milky chert.

Fort Payne

- 1895-1900-Ctgs: Brown stained limestone and an increasing amount of milky chert. Chert with oil stain.
1900- 09-Ctgs: Milky chert; with cavities showing oil stain noted. Brown chert.
1909- 25-Ctgs: Brown and light gray crystalline limestone.
1925- 30-Ctgs: Brown crystalline limestone; brown chert; brown dense limestone.
1930- 35-Ctgs: Brown chert; brown dense and crystalline limestone; milky chert.
1935- 41-Ctgs: Same and cherty limestone with oil stain.
1941- 47-Ctgs: Cream-colored crystalline limestone, blue and brown and white chert, chert with green inclusions.
1947- 57-Ctgs: White and gray crystalline limestone.
1957- 62-Ctgs: Same and white chert.
1962- 70-Ctgs: Same with part of limestone stained brown. Part with cavities showing oil stain.

- 1970- 75-Ctgs: Same with bluish tinged chert.
 1975- 99-Ctgs: White and gray crystalline limestone, bluish chert; brown chert noted.
 1999-2005-Ctgs: Same with white cherty limestone; bluish gray dense limestone, and grayish shaly lime.
 2005- 32-Ctgs: White and grayish crystalline and granular limestone; milky and bluish chert; bluish cherty limestone with brown stain.
 2032- 45-Ctgs: Same and brown and blue mottled chert.
 2045- 52-Ctgs: Same. Pyrite.
 2052- 61-Ctgs: Same with bluish green shale.
 2061- 66-Ctgs: Same with more bluish tinged chert.
 2066- 71-Ctgs: Same with milky chert.
 2071- 76-Ctgs: Same with increasing amount of milky chert.
 2076- 90-Ctgs: Milky and bluish chert and cream-colored granular and crystalline limestone.
 2090- 98-Ctgs: Same, and grayish granular limestone. Included in all are scattering flakes of a green mineral.
 2098-2103-Ctgs: Same with dark brown crystalline limestone with green flakes as inclusions.

Possible Devonian

- 2103- 19-Ctgs: Light gray and dark brown crystalline limestone with green inclusions and gray to greenish shale with phosphatic inclusions.
 2119- 40-Ctgs: Light gray crystalline limestone and medium gray limestone with green mineral.
 2140- 70-Ctgs: Same and cherty limestone.
 2170- 75-Ctgs: Same and white chert.
 2175-2214-Ctgs: Light gray cherty limestone with green mineral; light brown crystalline limestone, light gray crystalline limestone.
 2214- 32-Ctgs: Same with increasing chert.
 2232- 40-Ctgs: Light gray chert and crystalline limestone.
 2240- 47-Ctgs: Same and milky and bluish tinged chert.
 2247- 65-Ctgs: Bluish tinged chert, light gray crystalline limestone.
 2265- 71-Ctgs: Light greenish gray chert and limestone; cherty lime, and shale; light gray crystalline limestone.

Silurian

- 2271- 78-Ctgs: Medium greenish gray limestone, chert and shaly lime.
 2278-2303-Ctgs: Same, fossiliferous.
 2307- 10-Ctgs: Same, but somewhat darker in color.
 2310- 19-Ctgs: Same. Pyrite. **Crinoid stems.** Limestone fossiliferous.
 2319- 57-Ctgs: Medium to dark greenish gray dense limestone, fossiliferous; gray shaly lime. Pyrite.
 2357- 87-Ctgs: Same and greenish gray shaly lime.
 2387-2419-Ctgs: Medium greenish dense limestone and shaly lime.
 2419- 44-Ctgs: Same.
 Shell frag.

- 2444- 52-Ctgs: Same.
Ostracods.
- 2452- 80-Ctgs: Gray crystalline limestone and shale.
Shell frag.
- 2480- 87-Ctgs: Same and green calcareous shale and chert, and reddish gray lime.
- 2487- 96-Ctgs: Same. Black shale frag. and dark red shale frag.
- 2496-2503-Ctgs: Same and dark red shale and red lime frag.
- 2503- 09-Ctgs: Dark red and greenish gray shale.
- 2509- 15-Ctgs: Same and very dark gray shale.
- 2515- 22-Ctgs: Light gray lime; purple and gray lime; green shaly lime and chert. Chert carries pyrite.
- 2522- 36-Ctgs: Same.
- 2536- 44-Ctgs: Same and dark red shale. Pink limestone. Gray limestone with glauconite noted. Green limestone. **Crinoid stems** in pink limestone.
Ostracods.
- 2544- 50-Ctgs: Dark red and pink crystalline limestone; purple shale; green lime and shaly lime; soft greasy green shale; pink and green tinged limestone. Pink limestone, with **Ostracods**.
- 2550- 60-Ctgs: Same.
- 2560- 88-Ctgs: Pink and red crystalline limestone and dark red shale.
- 2588- 95-Ctgs: Gray and yellowish fine sandy lime.
- Ordovician**
- 2595-2621-Ctgs: Same and gray quartzitic sand; small black inclusions noted.
- 2621- 29-Ctgs: Medium bluish gray sandy limestone and shale frag.
- 2629- 37-Ctgs: Medium bluish gray sandy limestone.
- 2637- 43-Ctgs: Dark brownish gray very fine-gr. limy sandstone with small black inclusions, and brown crystalline limestone with small dark inclusions. Pyrite.
- 2643- 48-Ctgs: Dark brown crystalline limestone; small black inclusions; brown chert.
- 2648- 55-Ctgs: Brown hard crystalline limestone with spotted appearance. Brown chert.
- 2655- 60-Ctgs: Brown crystalline limestone and dark brown shale.
- 2660- 65-Ctgs: Brown crystalline limestone with chert.
- 2665- 70-Ctgs: Same and soft gray shale noted.
- 2670- 74-Ctgs: Brown crystalline limestone.
- 2674- 77-Ctgs: Brown to brownish black crystalline limestone; very dark brown chert.
- 2677- 79-Ctgs: Brown chert and limestone.
- 2679- 80-Ctgs: Dark brown chert and granular limestone.
- 2680- 85-Ctgs: Same and limestone with small black inclusions.

Summary

Pennsylvanian	to.....	819'
Pennington & Bangor		
& Gasper	819'	to.....1763' ?
		or 1823'
Bethel	1823'	to.....1835-40'
Tuscumbia	1835-40'	to.....1895'
Fort Payne	1895'	to.....2098-2103'
Possible Devonian	2098-2103'	to.....2265'
Silurian	2265'	to.....2595'
Ordovician	2595'	to.....T.D.

Harry L. Cullet
 Lewis 1-A
 NE/4 of SE/4
 Sec. 23—T 11 S—R 14 W
 Marion County, Ala.

Elev. 418 ft. Alt.
 Completed February 20, 1950

- 35- 40-Ctgs: Medium to fine-grained sand and gravel.
- Pennsylvanian**
- 40- 45-Ctgs: Same with finer-grained sand.
- 45- 92-Ctgs: Medium-grained sand and dark gray shale with mica.
- 92- 120-Ctgs: Gray fine-grained mic. sandstone and sandy shale.
- 120- 232-Ctgs: Gray coarse-grained sand and sandstone; gravel, chert noted in gravel. Carb. material.
- 232- 40-Ctgs: Coarse sand and gravel, dark gray shale with mica, brown claystone.
- 240- 60-Ctgs: Gray medium-grained sandstone with mica, pyrite and sandy shale, brown claystone. **Crinoid stems.** Coarse sand and gravel noted.
- 260- 78-Ctgs: Same with gravel.
- 278- 340-Ctgs: Gray medium-grained sand and sandstone with mica. Pyrite and carb. material, dark gray shale noted.
- 340- 68-Ctgs: Gray hard fine-grained sandstone with mica and medium-grained sand.
- 368- 75-Ctgs: Medium to slightly coarse-grained sand.
- 375- 450-Ctgs: Same with sandy shale, siderite concretions.
- 450- 60-Ctgs: Medium to slightly coarse sand, brown hard closely cemented sandstone and dark gray finely mic. shale.
- 460- 525-Ctgs: Gray and brown hard medium-grained sandstone with mica, brown claystone and dark gray to black shale and sandy shale.
- 525- 35-Ctgs: Gray hard fine-grained mic. sandstone and sandy shale, brown claystone siderite concretions, medium to coarse sand noted.

- 535- 55-Ctgs: Medium to coarse sand and gray sandy mic. shale; brown claystone noted.
- 555- 85-Ctgs: Medium to coarse sand, large and small siderite concretions, gray mic. sandy shale.
- 585- 95-Ctgs: Gray sandy shale with small siderite concretions abundant.
- 595- 700-Ctgs: Gray mic. sandy shale with siderite concretions, medium-grained sand.
- 700- 49-Ctgs: Gray fine-grained sand and sandy mic. carb. shale with brown claystone.
- 749- 58-Ctgs: Gray fine-grained sand, slightly mic.
Test for oil showed a faint trace.
- 758- 848-Ctgs: Dark gray to black mic. carb. sandy shale, brown claystone.
- 849- 51-Ctgs: Gray sandy mic. shale with siderite concretions.
- 851- 900-Ctgs: Dark gray sandy shale with pyrite. Frag. of gray shale with siderite concretions from above.
- 900- 15-Ctgs: Gray mic. carb. sandy shale with **shell frag. and crinoid stems. Frag. of brachiopods and spines.**
- 915- 20-Ctgs: Light gray and greenish gray limestone with shale, dark gray fossiliferous limestone and shaly limestone. Phosphatic material noted.
Brachiopod spines.
Crinoid stems.
Bryozoa.

Bangor

- 920- 25-Ctgs: Light gray crystalline limestone, part with brownish stain. Green shale noted.
- 925- 30-Ctgs: Brown limestone and green and gray shale.
- 935- 45-Ctgs: Gray mic. shale, part fossiliferous. Green shale and brown limestone.
Ostracods noted.
Crinoid stems.
- 945- 50-Ctgs: Gray and brown limestone and gray fossiliferous shale. Crinoid stems.
- 950- 55-Ctgs: Gray mic. fossiliferous shale, green shale, brown lime.
- 955- 60-Ctgs: Brown limestone, gray and green shale.
- 965- 70-Ctgs: Gray and brown limestone, green, gray and dark red shale, fossiliferous.
- 970- 75-Ctgs: Same with more green shale.
Small gastropods.
- 975- 80-Ctgs: Dark red and green shale, gray and brown limestone and red limestone, frag.
- 980- 85-Ctgs: Same and dark red and green mottled shale.
- 985- 90-Ctgs: Gray and greenish fine-grained and shaly lime with mica, dark red and greenish shale. Brown limestone.
- 990- 95-Ctgs: Gray and greenish fine-grained sandstone, part with brown stain, greenish gray and dark red shale.
- 995-1000-Ctgs: Same.
- 1000- 05-Ctgs: Same and gray sandy lime.

- 1005- 10-Ctgs: Gray fine-grained sandstone with mica and granular limestone.
 1010- 15-Ctgs: Greenish gray fine-grained mic. sandy shale.
 1015- 20-Ctgs: Same.
 1020- 25-Ctgs: Greenish gray hard mic. sandy shale.
 1025- 30-Ctgs: Same.
 1030- 35-Ctgs: Same with brown dense limestone.
 1035- 40-Ctgs: Brown dense cherty limestone and oolitic limestone.
 1040- 45-Ctgs: Brown limestone and green and dark red shale.
 1045- 50-Ctgs: Light gray limestone, fossiliferous and greenish shale.
 1050- 55-Ctgs: Same with dark red shale.
 1055- 60-Ctgs: Same with dark red and green shale. Sandy shale noted.
 1060- 65-Ctgs: Gray medium-grained sand and sandstone, part stained brown.

Fairly strong test for oil at 1060-65 ft.

- 1065- 70-Ctgs: Gray medium-grained sand and light gray limestone.
 1070- 75-Ctgs: Light gray limestone with green and red shale.
 1075- 80-Ctgs: Light gray limestone, slight brown stained.
 1080- 85-Ctgs: Same.

Test for oil showed faint trace.

- 1085- 90-Ctgs: Light gray limestone with **considerable brown stain**, fossiliferous.

Chloroform test showed heavy dead oil.

- 1090- 95-Ctgs: Light gray crystalline and oolitic limestone with **considerable brown staining**.
 1095-1100-Ctgs: Light gray limestone slightly stained brown.
 1100- 05-Ctgs: Light gray limestone.
 1105- 10-Ctgs: Light gray limestone, fossiliferous.
 1110- 15-Ctgs: Light gray limestone, part oolitic, fossiliferous, part slightly stained brown.
 1115- 20-Ctgs: Light gray limestone.
 1120- 25-Ctgs: Light gray crystalline limestone.
 1125- 30-Ctgs: Light gray limestone, green shale and shaly lime.
 1130- 35-Ctgs: Light gray and brownish limestone and brown chert and shaly lime.
 Fenestella Bryozoa.
 1135- 40-Ctgs: Gray and brown limestone with brownish chert.
 Bryozoa.

Fair oil show.

- 1140- 45-Ctgs: Gray and brownish gran. limestone, fossiliferous, green and dark red shale.
 1145- 50-Ctgs: Gray and brown fossiliferous limestone.
 1150- 55-Ctgs: Gray and brown limestone, fossiliferous.
 1155- 60-Ctgs: Same.
 Bryozoa.
 1160- 65-Ctgs: Gray and brown crystalline and granular limestone, fossiliferous.
 1165- 70-Ctgs: Same.
 1170- 75-Ctgs: Brown crystalline limestone, fossiliferous.

1175- 80-Ctgs: Brown crystalline limestone. Brown chert noted.
Crinoid stems.

1180- 85-Ctgs: Brown crystalline fossiliferous limestone.
Bryozoa and crinoid stems noted.

Bangor

1245- 50-Ctgs: Brown hard lime and gray shaly lime.

1250- 55-Ctgs: Gray and brownish hard lime.

1255- 60-Ctgs: Same.

1265- 70-Ctgs: Same with fossiliferous shaly lime.

1275- 80-Ctgs: Same, fossiliferous.

1280- 85-Ctgs: Same with black shale.

1285- 90-Ctgs: Dark brown limestone, fossiliferous.

1290- 95-Ctgs: Same with black shale.

Ostracods noted.

1295-1310-Ctgs: Same.

1315- 20-Ctgs: Same.

1320- 25-Ctgs: Gray and brownish lime and black shale.

1340- 45-Ctgs: Dark brown limestone, fossiliferous, and black shale.

1350- 55-Ctgs: Same.

1360- 65-Ctgs: Same with shaly fossiliferous lime.

1365- 70-Ctgs: Same with more shaly lime.

1375- 80-Ctgs: Brown fossiliferous limestone and gray shaly lime.

1380- 85-Ctgs: Brown limestone and gray to black shale.

1395-1405-Ctgs: Same.

1410- 15-Ctgs: Dark brown limestone with chert and gray finely granular lime.

1415- 20-Ctgs: Same.

1420- 25-Ctgs: Same and dark gray shale.

1425- 30-Ctgs: Same with more brown chert.

1430- 35-Ctgs: Brown limestone, fossiliferous; and dark gray shale, fossiliferous.

1435- 40-Ctgs: Brown and gray limestone; gray shale and lime.
Ostracods.

1380- 85-Ctgs: Brown limestone and gray to black shale.

1445- 50-Ctgs: Brown limestone, shaly lime, gray to black shale. Brown claystone.
Shells and shell frag.

1450- 55-Ctgs: Dark gray to black shale and lime, fossiliferous.

1455- 60-Ctgs: Black shale, brown claystone. Pyrite.
Shell frag.

1460- 70-Ctgs: Same.

1470- 75-Ctgs: Gray and black fossiliferous shale. Pyrite. Brown claystone.
Shell frag.

1475- 80-Ctgs: Same.

1480- 85-Ctgs: Dark gray brittle shale, fossiliferous.

1485- 90-Ctgs: Same.
Ostracods noted.

1490-1515-Ctgs: Same.

- 1515- 20-Ctgs: Gray to black shale, sl. fossiliferous and brown lime.
 1520- 25-Ctgs: Same.
 1525- 30-Ctgs: Brown limestone and gray to black shale.
 1530- 35-Ctgs: Same with more brown limestone.
 1535- 40-Ctgs: Gray to black shale, fossiliferous, and brown limestone.
 1540- 45-Ctgs: Same.
 1545- 50-Ctgs: Gray to black shale and limestone.
 1550- 55-Ctgs: Same.
 Crinoid stems.
 1555- 60-Ctgs: Same with brownish gray dense limestone.
 1560- 70-Ctgs: Same.
 1570- 75-Ctgs: Dark gray lime and shale and black shale.
 1575- 80-Ctgs: Same.
 1580- 85-Ctgs: Dark brownish gray lime.
 1585- 90-Ctgs: Same.
 1590- 95-Ctgs: Same with shale.
 1595-1600-Ctgs: Same with shaly lime.
 1600- 05-Ctgs: Same.
 1604- 10-Ctgs: Gray to black shale and shaly lime.
 1610- 35-Ctgs: Same.
 1640- 45-Ctgs: Same.
 1645- 50-Ctgs: Black shale, sl. fossiliferous, and shaly lime.
 1650- 55-Ctgs: Same.
 1660- 75-Ctgs: Same.
 1675- 80-Ctgs: Same with an increasing amount of shale.
 1680- 85-Ctgs: Dark gray to black shale and frag. of calc. sandy shale.
 1685- 90-Ctgs: Gray to black shale, brown claystone and pyrite.
 1690-1715-Ctgs: Same.
 1720- 35-Ctgs: Same.
 1740 ft. Hard brown claystone with pyrite through it. This is
 probably an inclusions of the shale.
 1745- 50-Ctgs: Gray and black shale and brown claystone. Pyrite. Black
 shale with fossils.
 1750- 55-Ctgs: Same with more gray and greenish shale.
 1755- 60-Ctgs: Same with hard fine-grained sandstone frag.
 1760- 65-Ctgs: Same with less black shale.
 1765- 70-Ctgs: Same with frag. of gray hard fine-grained sandstone.
 1770- 75-Ctgs: Gray hard medium-grained closely cemented sandstone
 and greenish sandy shale.
 1775- 80-Ctgs: Same.
 1780- 85-Ctgs: Same with more sandy shale.
 1785- 90-Ctgs: Gray shale and sandy shale, pyrite and black shale.
 1790- 95-Ctgs: Black and gray shale and sandy shale.
 1795-1810-Ctgs: Same.
 1810- 15-Ctgs: Same.
 1815- 20-Ctgs: Gray hard calcareous sandstone. Black rounded grains
 composing part of sand and sandy shale, fossiliferous.

Bethel

- 1820- 25-Ctgs: Gray hard fine-grained sandstone and sandy shale.

- 1825- 30-Ctgs: Gray medium-grained sand and fairly porous sandstone with brown stain. Very slight show of oil.
 1830- 35-Ctgs: Medium-grained fairly porous sandstone and sand with brown stain.
 1835- 45-Ctgs: Same.

Gas

- 1849- 50-Ctgs: Brown limestone with **crinoid stems**, gray to black shale. Bryozoa.
 Shell frag.
 1850- 53-Ctgs: Same with an increasing amount of brown fossiliferous limestone.
 1853- 60-Ctgs: Gray brown stained limestone with **crinoid stems**. Very slight oil show.
 1860- 65-Ctgs: Same.
 1865- 70-Ctgs: Same with white chert.

Tuscumbia

- 1870- 75-Ctgs: Same.
 Crinoid stems.
 1875- 80-Ctgs: Same with more chert, limestone brown stained. Slight oil show.
 1880- 85-Ctgs: Same with an increasing amount of white chert.
 1885- 90-Ctgs: Gray and brown limestone and bluish chert.
 1890- 95-Ctgs: Gray and bluish chert and limestone.
 1895-1905-Ctgs: Same.
 1905- 10-Ctgs: Same with more gray limestone.
 1910- 20-Ctgs: Same.
 1920- 25-Ctgs: Gray limestone and chert with brown stain. Stronger show of oil than at 1875-80'.
 1925- 30-Ctgs: Gray limestone with brown stain.
 1935- 40-Ctgs: Same. Strong oil show.
 1940- 45-Ctgs: Gray limestone with brown stain. Very strong heavy oil show.
 1945- 65-Ctgs: Same. 1945-50—Fair oil show.
 1965- 70-Ctgs: Gray limestone with brown stain. Good oil show. Not as strong as 1940-45.
 1970- 75-Ctgs: Same.
 1975- 80-Ctgs: Gray cherty limestone with brown stain.
 1980- 85-Ctgs: Same.
 1985- 90-Ctgs: Gray and brown cherty limestone.
 1990- 93-Ctgs: Cherty lime with brown stain. 1990-1993 pronounced oil show.
 1993- 95-Ctgs: Gray cherty limestone.
 1995- 97-Ctgs: Gray and brown cherty limestone.
 1997-2000-Ctgs: Same. 1997-2000 very slight oil show.
 2000- 02-Ctgs: Gray to brown cherty limestone. 2000-2002 slight show of oil.
 2002- 05-Ctgs: Brown cherty limestone. 2002-2005 very slight oil show.
 2005- 08-Ctgs: Brown cherty limestone. 2005-2008 slight show of oil.

- 2008- 15-Ctgs: Same. 2008-10 slight oil show.
 2015- 20-Ctgs: Gray cherty limestone.
 2020- 23-Ctgs: Same and brown cherty limestone.

Fort Payne

- 2023- 25-Ctgs: Brown chert and cherty limestone.
 2025- 30-Ctgs: Same.
 2030- 35-Ctgs: Brown cherty limestone, slightly granular.
 2035- 40-Ctgs: Light gray limestone and chert.
 2040- 43-Ctgs: Gray cherty limestone and dark gray shaly lime.
 2043- 45-Ctgs: Gray lime and shaly lime with green streaks and chert, and greenish calc. shale with pyrite.

Maury ?

- 2045- 50-Ctgs: Light gray limestone and green shaly lime and fine-grained sandy lime with phosphatic inclusions.
 2050- 55-Ctgs: Brownish black shale and sandy shale with **spores**. Lingula noted.

Chattanooga

- 2055- 60-Ctgs: Same.
 Spores noted.
 2060- 65-Ctgs: Same and light gray chert and cherty limestone.
 2065- 70-Ctgs: Light gray cherty limestone, sl. glauconitic.
 2070- 85-Ctgs: Same.
 2090-2112-Ctgs: Same.
 2112- 15-Ctgs: Light gray cherty limestone, sl. glauconitic.
 2120- 30-Ctgs: Same.
 2130- 32-Ctgs: Same and dark red and green mottled shale and greenish fine-grained sandstone which may be coming down from above.
 2132- 36-Ctgs: Light gray cherty sl. glau. limestone.
 2136- 48-Ctgs: Same.
 2148- 50-Ctgs: Light gray cherty limestone with very fine glauconite.
 2150- 56-Ctgs: Same.
 2156- 60-Ctgs: Same, chiefly chert.
 2160- 62-Ctgs: Same with more chert.
 2162- 65-Ctgs: Same.
 2165- 68-Ctgs: Same with more light gray limestone.
 2168- 71-Ctgs: Greenish gray limestone with **crinoid stems**.

Prob. Silurian

- 2171- 74-Ctgs: Same.
 2174- 80-Ctgs: Greenish cherty limestone.
 2180- 87-Ctgs: Same.
 2190-2205-Ctgs: Same.
 2215- 20-Ctgs: Same.
 2220- 25-Ctgs: Dark gray and greenish cherty limestone.
 2225- 32-Ctgs: Same.

- 2232- 37-Ctgs: Greenish cherty limestone with very fine glauconite, and light gray dense limestone very fine glauconite.
 2237- 41-Ctgs: Same.
 Ostracods noted.
 2240- 50-Ctgs: Same.
 2250- 60-Ctgs: Greenish finely granular shaly glau. limestone, fossiliferous.
 Ostracods.
 2258- 62-Ctgs: Same.
 2267- 74-Ctgs: Greenish gray limestone with **crinoid stems** and **Ostracods**.
 2274- 79-Ctgs: Same, sl. glauconitic.
 2279- 86-Ctgs: Greenish fossiliferous limestone with chert.
 2286- 92-Ctgs: Same.
 Crinoid stems.
 2292- 98-Ctgs: Same.

Summary

Pennsylvanian	40'	to	920'
Pennington & Bangor & Gasper	920'	to	1815'
Bethel	1815'	to	1845'
Tuscumbia & Fort Payne	1850'	to	2043'
Maury green shale	2043'	to	2050'
Chattanooga Shale	2050'	to	2060'
Devonian	2060'	to	2168'
Silurian	2168'	to	2298'
			last sample.
			T.D. 2302'

Completed as a gas well in Bethel sandstone.

Harry L. Cullet
 McCarley-Bannister #1
 NW/4 of NW/4
 Sec. 23—T 11 S—R 15 W
 Marion County, Ala.

Elev. 411 ft. D. F.
 Began April 27, 1950
 Comp. February 8, 1952

- 30- 35-Ctgs: Gray medium-grained sand and sandstone.

Pennsylvanian

- 35- 40-Ctgs: Gray medium-grained sand and sandstone.
 40- 45-Ctgs: Gray hard fine-grained sandstone with mica.
 45- 50-Ctgs: Gray hard fine-grained sandstone with mica and carb. material.
 50- 55-Ctgs: Same and medium-grained sand and sandstone.

- 55- 60-Ctgs: Medium-grained sand and sandstone with mica and gray hard fine-grained sandstone.
- 64- 68-Ctgs: Medium-grained sand and sandstone, quartz grains showing crystal faces.
- 68- 75-Ctgs: Same. Conglomerate frag. and gravel.
- 75- 80-Ctgs: Same.
- 80- 92-Ctgs: Same with fine-grained sand.
- 92- 97-Ctgs: Same with fine-grained sand.
- 97- 100-Ctgs: Medium-grained sand and sandstone.
- 100- 15-Ctgs: Same and mic. carb. sandy shale.
- 115- 20-Ctgs: Medium-grained sand, carb. material noted.
- 120- 25-Ctgs: Same with coarse sand and gravel.
- 125- 28-Ctgs: Same with more coarse sand.
- 130- 35-Ctgs: Same.
- 135- 45-Ctgs: Same with more gravel.
- 143- 45-Ctgs: Light gray hard fine-grained sandstone with mica.
- 145- 50-Ctgs: Medium to coarse-grained sand and gravel.
- 150- 62-Ctgs: Medium-grained sand.
- 162- 69-Ctgs: Same with coarse sand and gravel.
- 169- 90-Ctgs: Medium to coarse sand with gravel.
- 190- 95-Ctgs: Gray medium to fine-grained sand.
- 195- 202-Ctgs: Medium-grained sand and sandstone, gray hard fine-grained sandstone.
- 202- 11-Ctgs: Gray hard fine-grained sandstone and sandy mic. carb. shale.
- 211- 15-Ctgs: Medium to fine-grained sandstone and gray mic. carb. sandy shale.
- 215- 18-Ctgs: Same with chert gravel.
- 218- 20-Ctgs: Same.
- 220- 25-Ctgs: Gray fine-grained sand.
- 225- 30-Ctgs: Medium to fine-grained sand.
- 230- 33-Ctgs: Same and mic. carb. sandy shale.
- 233- 36-Ctgs: Same.
- 236- 50-Ctgs: Same and hard fine-grained sandstone.
- 250- 55-Ctgs: Gray hard fine-grained sandstone with fine mica and mic. carb. sandy shale.
- 255- 60-Ctgs: Medium to fine-grained sand and sandstone.
- 260- 68-Ctgs: Same and sand.
- 268- 72-Ctgs: Same and mic. carb. sandy shale.
- 272- 77-Ctgs: Gray hard fine-grained sandstone and sand and mic. carb. sandy shale.
- 277- 80-Ctgs: Same with more shale.
- 280- 90-Ctgs: Medium-grained sand and sandy shale.
- 290- 305-Ctgs: Same and light brown sandstone.
- 305- 11-Ctgs: Medium-grained sand and mic. carb. sandy shale.
- 311- 16-Ctgs: Same and hard fine-grained sandstone.
- 315- 20-Ctgs: Medium-grained sand and fine-grained sandstone, gray mic. carb. sandy shale, coarse sand.
- 320- 30-Ctgs: Same with more sandy shale.

- 330- 50-Ctgs: Medium to slightly coarse sand.
355- 60-Ctgs: Same.
360- 70-Ctgs: Same with more coarse sand.
370- 75-Ctgs: Same and sandstone with mica.
375- 80-Ctgs: Same with black mic. carb. shale.
380- 90-Ctgs: Same with dark gray mic. carb. sandy shale.
390- 95-Ctgs: Medium to coarse-grained sand and sandstone.
395- 400-Ctgs: Same.
400- 05-Ctgs: Same with black mic. carb. shale and sandy shale.
405- 10-Ctgs: Gray mic. carb. sandy shale and medium-grained sand.
410- 15-Ctgs: Same with fine-grained sand and brown claystone.
415- 25-Ctgs: Brown medium-grained sandstone and sand, slightly calcareous.
425- 30-Ctgs: Same and light gray sand.
430- 35-Ctgs: Medium-grained sand and gray hard fine-grained sandstone and dark gray mic. carb. sandy shale.
435- 40-Ctgs: Gray medium to fine-grained sand and sandstone and mic. carb. sandy shale.
440- 45-Ctgs: Medium to fine-grained sand and sandy shale and hard fine-grained sandstone.
445- 50-Ctgs: Gray fine-grained sand and sandstone and sandy mic. carb. shale.
450- 55-Ctgs: Gray medium-grained sand and hard fine-grained sand, carb. material.
455- 70-Ctgs: Gray fine-grained sand and hard sandstone.
470- 75-Ctgs: Same and brown claystone.
475- 85-Ctgs: Gray medium to fine-grained sand and sandstone and brown claystone, carb. material.
495- 503-Ctgs: Same.
503- 09-Ctgs: Fine-grained sand and sandstone and brown claystone.
509- 18-Ctgs: Gray and brown fine-grained sand and sandstone and brown claystone.
518- 20-Ctgs: Gray hard fine-grained sandstone and sand.
525- 30-Ctgs: Same.
530- 35-Ctgs: Same with brown calc. sandstone.
Brachiopod frag.
Crinoid stems.
535- 40-Ctgs: Same with black mic. carb. sandy shale.
Small gastropod.
540- 45-Ctgs: Black and gray mic. carb. sandy shale and sand.
545- 50-Ctgs: Same.
Crinoid stems noted.
550- 55-Ctgs: Same.
555- 60-Ctgs: Same.
Crinoid stems.
560- 65-Ctgs: Same with brown claystone.
565- 70-Ctgs: Black mic. carb. shale and sandy shale, carb. material and brown claystone.

- 570- 75-Ctgs: Black carb. shale and gray sandy shale. Small brown siderite concretions abundant.
- 575- 80-Ctgs: Gray sandy shale and small brown siderite concretions abundant. Brown claystone.
- 580- 85-Ctgs: Same with more brown claystone.
- 585- 95-Ctgs: Gray to black shale and sandy shale, brown claystone.
- 600- 05-Ctgs: Same.
- 605- 10-Ctgs: Gray to black mic. carb. sandy shale.
- 610- 20-Ctgs: Gray sandy mic. carb. shale.
- 620- 25-Ctgs: Same with black shale.
- 625- 38-Ctgs: Black mic. carb. shale and sandy shale.
- 643- 48-Ctgs: Same.
- 648- 53-Ctgs: Black mic. carb. shale and sandy shale.
- 653- 70-Ctgs: Gray hard fine-grained sandstone and sandy shale with **crinoid stems**. Brown lime with **crinoid stems**. Gray sandy shale with small siderite concretions.
- 670- 75-Ctgs: Gray hard fine-grained sandstone and sandy shale.
- 675- 87-Ctgs: Same.
- 687- 93-Ctgs: Same.
Crinoid stems noted.
- 693- 97-Ctgs: Gray to black mic. carb. sandy shale.
Crinoid stems noted.
- 697- 705-Ctgs: Same.
- 705- 10-Ctgs: Same and brown claystone.
- 705- 15-Ctgs: Same.
Ostracods.
Crinoid stems.
- 715- 30-Ctgs: Black mic. carb. sandy shale, brown claystone.
- 730- 35-Ctgs: Same, more sandy with **crinoid stems**. Fine-grained sand.
- 735- 40-Ctgs: Same.
- 740- 55-Ctgs: Gray mic., carb. sandy shale and brown claystone.
- 755- 75-Ctgs: Same and brown lime frag.
- 775- 80-Ctgs: Brown lime and sandy lime, slightly fossiliferous, brown claystone.
- 780- 91-Ctgs: Black mic. carb. shale and sandy shale, brown lime, frag., gray sandy shale with small siderite concretions noted.
- 791- 800-Ctgs: Same with sandy shale carrying small siderite concretions.
- 800- 05-Ctgs: Gray shale with small siderite concretions.
- 805- 15-Ctgs: Gray and reddish brown shale with abundant small siderite concretions.
- 815- 20-Ctgs: Gray sandy shale with siderite concretions.
- 820- 25-Ctgs: Gray and greenish mic. sandy shale with small siderite concretions.
- 930- 40-Ctgs: Same with brownish gray limestone.
Crinoid stems.
- 840- 48-Ctgs: Black shale and gray sandy shale.
- 848- 55-Ctgs: Same with large crinoid stems.
- 855- 60-Ctgs: Gray to black mic. carb. sandy shale and brown claystone.

- 860- 74-Ctgs: Gray fine-grained sandstone and sandy shale with mica and carb. material.
 874- 79-Ctgs: Black shale with abundant crinoid stems. Dark brown and brown limestone with **brachiopod frag.**
 879- 83-Ctgs: Brownish gray limestone with **crinoid stems**, slightly brown stained.

Pennington & Bangor

- 883- 89-Ctgs: Same with greenish shale carrying fine mica.
 889- 95-Ctgs: Light gray and slightly brownish limestone and greenish shale.
 Crinoid stems.
 895- 900-Ctgs: Same with more greenish shale carrying **Fenestella Bryozoa** and **crinoid stems**.
 910- 15-Ctgs: Greenish and gray limestone and dark gray shaly lime with mica.
 Crinoid stems.
 Shell frag.
 915- 17-Ctgs: Same with black shaly lime and dark brown limestone.
 917- 20-Ctgs: Same.
 920- 22-Ctgs: Same with more brown hard limestone.
 922- 35-Ctgs: Same.
 935- 38-Ctgs: Same with brown chert.
 938- 48-Ctgs: Green fossiliferous shale and dark red shale, light gray limestone.
 948- 55-Ctgs: Greenish very fine-grained slightly calc. sandstone, and light gray crystalline limestone.
 955- 60-Ctgs: Greenish very fine-grained sandstone with mica.
 960- 70-Ctgs: Same with green shale.
 970- 85-Ctgs: Same.
 985- 90-Ctgs: Same with green shale.
 990- 95-Ctgs: Same.
 995-1000-Ctgs: Greenish gray sandy mic. shale.
 1000- 05-Ctgs: Same with brown dense limestone.
 1005- 09-Ctgs: Dark brown dense limestone and light gray oolitic limestone.
 1009- 15-Ctgs: Buff-colored dense limestone, brownish limestone, greenish shale and dark oolitic limestone.
 1015- 20-Ctgs: Light gray crystalline limestone.
 1020- 25-Ctgs: Dark reddish brown shale, dark gray fine-grained indurated sandstone, green shale and light gray limestone.
 1025- 30-Ctgs: Same.
 1030- 35-Ctgs: Light gray crystalline limestone with sand.
 1035- 40-Ctgs: Light gray crystalline limestone.
 1040- 47-Ctgs: Same.
 1047- 50-Ctgs: Light gray limestone with **Endothyra** ?
 1050- 54-Ctgs: Same with brown stain.
 1054- 68-Ctgs: Same.
 1068- 70-Ctgs: Light gray crystalline limestone.
 1070- 75-Ctgs: Same with **crinoid stems**.

- 1075- 85-Ctgs: Same.
 1085- 90-Ctgs: Gray crystalline limestone.
 1090- 95-Ctgs: Same with **crinoid stems**.
 1095-1100-Ctgs: Same with gray finely granular limestone. Brownish chert.
 1100- 05-Ctgs: Same.
 1105- 10-Ctgs: Dark gray limestone with **crinoid stems**.
 1110- 15-Ctgs: Same with **Bryozoa** and **crinoid stems**.
 1115- 25-Ctgs: Same.
 1130- 35-Ctgs: Same with brown finely granular limestone, well stained.
 1135- 40-Ctgs: Same.
 1140- 45-Ctgs: Dark gray crystalline limestone, very fossiliferous. Fenestella Bryozoa. Crinoid stems.
 1145- 50-Ctgs: Same and finely granular limestone.
 1150- 70-Ctgs: Same.
 1170- 75-Ctgs: Same with dark gray shale.
 1175- 80-Ctgs: Same with dark gray shale and finely granular limestone.
 1180- 85-Ctgs: Dark gray and brownish hard dense limestone.
 1185- 89-Ctgs: Same.
 1189- 95-Ctgs: Same. Ostracods noted.
 1195-1200-Ctgs: Same.
 1200- 05-Ctgs: Brown and gray hard dense limestone.
 1205- 20-Ctgs: Same.
 1220- 25-Ctgs: Same with light gray dense limestone.
 1225- 30-Ctgs: Same with dark gray to black shale.
 1230- 35-Ctgs: Same.
 1235- 40-Ctgs: Same with dark gray to black shale.
 1240- 55-Ctgs: Same.
 1255- 60-Ctgs: Brownish and dark gray crystalline limestone.
 1260- 65-Ctgs: Same and dark gray to black shale.
 1265- 70-Ctgs: Same.
 1270- 75-Ctgs: Dark brownish black limestone.
 1275- 90-Ctgs: Same.
 1290- 95-Ctgs: Same and dark gray shaly lime.
 1295-1300-Ctgs: Same.

Pennington and Bangor from 883 ft.

- 1300- 05-Ctgs: Brown hard dense limestone, fossiliferous.
 1305- 10-Ctgs: Same with black shale.
 1310- 15-Ctgs: Same and gray limestone.
 1315- 20-Ctgs: Same. Ostracods noted.
 1320- 25-Ctgs: Same.
 1325- 35-Ctgs: Brown hard limestone.
 1335- 45-Ctgs: Same and black fossiliferous shale.
 1345- 50-Ctgs: Same with black fossiliferous shale.
 1350- 55-Ctgs: Same with more black shale, fossiliferous.
 1355- 60-Ctgs: Same.

- 1360- 65-Ctgs: Same with more brown limestone.
1365- 70-Ctgs: Same with black shale, fossiliferous.
1370- 75-Ctgs: Same.
Bryozoa.
1375- 80-Ctgs: Same.
1380- 85-Ctgs: Same with more brown limestone.
1385- 95-Ctgs: Brown dense limestone with black shale.
1395-1400-Ctgs: Same with more black shale.
1400- 05-Ctgs: Dark brown cherty limestone and black shale.
1405- 10-Ctgs: Same.
1410- 15-Ctgs: Same with more black shale. **Shells** in black shale matrix.
Pyrite.
1415- 20-Ctgs: Same.
1420- 25-Ctgs: Same, limestone and shale, fossiliferous.
Ostracods.
1425- 30-Ctgs: Same with shaly lime.
1430- 35-Ctgs: Same with brown claystone.
Crinoid stems.
Small gastropods and pelecypods.
1435- 40-Ctgs: Black shale and brown claystone with pyrite.
1440- 45-Ctgs: Black fossiliferous shale, brown claystone.
1445- 65-Ctgs: Same.
1465- 70-Ctgs: Same.
Large Ostracods.
1470- 75-Ctgs: Same.
Euphemus sp.
1475- 90-Ctgs: Same.
1490- 95-Ctgs: Same. Pyrite inclusions in black shale.
1495-1500-Ctgs: Black shale and brown claystone with fine inclusions of pyrite.
1500- 05-Ctgs: Black and dark gray shale and brown claystone.
1505- 10-Ctgs: Same.
Ostracods.
1510- 15-Ctgs: Same.
Small gastropods.
1515- 20-Ctgs: Same.
1520- 25-Ctgs: Same with pyrite.
Shell frag.
1525- 35-Ctgs: Same.
1535- 40-Ctgs: Same.
Pelecypod shell filled with crystalline pyrite.
1540- 45-Ctgs: Same. **Euphemus** sp. in shale matrix.
1545- 50-Ctgs: Same.
Euphemus sp.
1550- 55-Ctgs: Brownish gray limestone.
1555- 60-Ctgs: Same.
1560- 65-Ctgs: Same with buff-colored limestone.
1565- 70-Ctgs: Brown and buff-colored limestone, fossiliferous.
1570- 75-Ctgs: Same and black shale.

1575-	80-Ctgs:	Gray and brown limestone and black and dark gray fossiliferous shale.
1580-	85-Ctgs:	Same.
1585-	90-Ctgs:	Gray finely granular limestone and black shale.
1590-1605-	Ctgs:	Same.
1605-	10-Ctgs:	Same with more black fossiliferous shale. Ostracods.
1610-	25-Ctgs:	Same.
1625-	30-Ctgs:	Same with black shaly lime.
1630-	35-Ctgs:	Black shale and shaly lime.
1635-1730-	Ctgs:	Same.
1730-	35-Ctgs:	Same with brown claystone.
1735-	80-Ctgs:	Same.
1780-	85-Ctgs:	Black shale and gray hard fine-grained sandstone and shaly sandstone.
1785-	90-Ctgs:	Same with more sandstone and black shale.
1790-	95-Ctgs:	Same.
1795-1800-	Ctgs:	Same with brown claystone and less sandstone.
1800-	05-Ctgs:	Same.
1805-	10-Ctgs:	Black shale and brown claystone.
1810-	15-Ctgs:	Gray fine to medium-grained sandstone, part hard.
Bethel		
1815-	20-Ctgs:	Medium-grained sand and sandstone, part with brown stain.

Gas**Summary**

Pennsylvanian	to.....	879-83'
Pennington & Bangor	at.....	879-83'
Bethel	at.....	1810-15'

Completed as a gas well in the Bethel sandstone.

Benedum-Trees Oil Company
Howard May-Hobson #1
SE/4 of SW/4
Sec. 7—T 11 S—R 13 W
Marion County, Ala.

Elev. 465 ft. D. F.
Began November 10, 1952
Comp. January 24, 1953

0-	18-Ctgs:	Gravel and coarse sand.
18-	25-Ctgs:	Dark gray to black sandy shale.

Pennsylvanian

25-	32-Ctgs:	Dark gray to black hard mic. carb. shale.
32-	62-Ctgs:	Same.

- 60- 68-Ctgs: Gray hard medium-grained sandstone and dark gray carb. shale.
68- 73-Ctgs: Medium-grained sand and sandstone.
73- 80-Ctgs: Same and sl. coarse sand.
80- 90-Ctgs: Same with coarse sand and gravel.
90- 98-Ctgs: Gray medium-grained hard sandstone.
98- 102-Ctgs: Medium to fine-grained sand and sandstone.
102- 08-Ctgs: Same and sl. coarse sandstone.
108- 118-Ctgs: Same.
118- 28-Ctgs: Same with coarse sand and gravel.
128- 35-Ctgs: Gravel and coarse-grained sandstone.
135- 42-Ctgs: Gravel and coarse-grained sand.
142- 48-Ctgs: Medium to coarse-grained sand.
148- 55-Ctgs: Same and gravel.
156- 65-Ctgs: Same.
165- 75-Ctgs: Gravel and coarse sand.
175- 85-Ctgs: Same and sandstone.
185- 94-Ctgs: Medium to sl. coarse sand.
194- 200-Ctgs: Same.
200- 05-Ctgs: Coarse sand and gray mic. carb. sandy shale.
205- 10-Ctgs: Gray medium to fine-grained sandstone and sandy mic. carb. shale.
210- 50-Ctgs: Same.
250- 55-Ctgs: Gray sandy mic. shale.
255- 60-Ctgs: Same and medium-grained sand and sandstone.
260- 65-Ctgs: Same and more sandy shale.
265- 70-Ctgs: Same with very mic. shale.
270- 75-Ctgs: Gray mic. carb. sandy shale.
275- 79-Ctgs: Same.
279- 82-Ctgs: Gray fine-grained sandstone and sandy shale and sl. brown sandstone.
282- 87-Ctgs: Same and brown calc. sandstone.
287- 93-Ctgs: Gray fine-grained sandstone and dark gray sandy shale.
293- 301-Ctgs: Same.
301- 09-Ctgs: Medium-grained sand and gray fine-grained sandstone and sandy mic., carb. shale.
309- 20-Ctgs: Medium-grained sand.
320- 27-Ctgs: Same and sl. coarse sand.
327- 35-Ctgs: Coarse to fine-grained sand.
334- 50-Ctgs: Same.
350- 60-Ctgs: Medium-grained sand and sandstone.
- sl.=slightly.
mic.=micaceous.
carb.=carbonaceous.
- 360- 67-Ctgs: Medium to fine-grained sand.
367- 75-Ctgs: Gray medium-grained sandstone.
375- 80-Ctgs: Coarse to fine-grained sand.
380- 86-Ctgs: Medium to fine-grained sand.
386- 92-Ctgs: Same.

- 392- 402-Ctgs: Medium to coarse sand.
 402- 15-Ctgs: Same and fine-grained sand.
 415- 23-Ctgs: Same and sandy shale.
 423- 28-Ctgs: Same and sandy mic. carb. shale.
 428- 35-Ctgs: Medium-grained sand and sandy shale.
 435- 40-Ctgs: Same and sl. coarse sand.
 440- 46-Ctgs: Medium to fine-grained sand and sandy shale.
 446- 52-Ctgs: Gray mic. carb. sandy shale and fine-grained sandstone.
 452- 58-Ctgs: Same and sand.
 458- 66-Ctgs: Fine-grained sand.
 466- 71-Ctgs: Same and mic. carb. sandy shale.
 471- 75-Ctgs: Same.
 475- 78-Ctgs: Gray mic. carb. sandy shale and brown claystone.
 478- 83-Ctgs: Same with brown medium-grained calc. sandstone.
 483- 88-Ctgs: Gray medium-grained sandstone.
 488- 93-Ctgs: Same and fine-grained sand.
 493- 500-Ctgs: Gray and brown medium-grained sand and sandstone and fine sand.
 500- 10-Ctgs: Same.
 510- 17-Ctgs: Medium-grained sand and black mic. carb. shale.
 517- 25-Ctgs: Same.
 525- 28-Ctgs: Gray mic. carb. sandy shale.
 528- 33-Ctgs: Same and black shale.
 533- 36-Ctgs: Black and gray mic., carb. sandy shale.
 536- 39-Ctgs: Same.
 539- 42-Ctgs: Same. Pyrite noted.
 542- 45-Ctgs: Gray to black shale with coal.
 545- 49-Ctgs: Same with brown claystone. Pyrite.
 549- 60-Ctgs: Same.
 560- 64-Ctgs: Gray sandy shale.
 Crinoid stems and Ostracods noted.
 564- 67-Ctgs: Same and brown claystone.
 Crinoid stems.
 567- 70-Ctgs: Gray sandy mic. shale.
 570- 79-Ctgs: Same.
 579- 85-Ctgs: Same and black mic. shale.
 585- 90-Ctgs: Gray and black mic. carb. sandy shale.
 590- 99-Ctgs: Same.
 599- 606-Ctgs: Black mic. carb. shale and dark gray mic. carb. sandy shale.
 606- 13-Ctgs: Same.
 613- 20-Ctgs: Same and gray and brown fine-grained sandstone.
 628- 33-Ctgs: Gray fine-grained sandstone and brown claystone.
 633- 39-Ctgs: Gray fine-grained sandstone with mica.
 639- 45-Ctgs: Same.
 Crinoid stems noted.
 645- 52-Ctgs: Same and brown claystone.
 652- 59-Ctgs: Same and brown lime frag. with **crinoid stems**.
 659- 65-Ctgs: Same.

- 665- 70-Ctgs: Same with dark gray mic. sandy shale.
670- 76-Ctgs: Same.
676- 81-Ctgs: Dark gray mic. sandy shale.
681- 89-Ctgs: Sand and brown claystone.
Crinoid stems.
Ostracods.
689- 96-Ctgs: Dark gray mic. sandy shale. Brown claystone.
696- 701-Ctgs: Dark gray to black mic. sandy shale and brown claystone.
701- 07-Ctgs: Black mic. shale and brown claystone.
707- 13-Ctgs: Same and sandy shale.
Crinoid stems.
713- 23-Ctgs: Dark gray mic. sandy shale.
723- 30-Ctgs: Dark gray mic. carb. sandy shale.
730- 41-Ctgs: Same and brown claystone.
741- 50-Ctgs: Same with pyrite.
750- 55-Ctgs: Same with fine-grained sandstone.
755- 62-Ctgs: Dark gray fine-grained mic. sandstone.
762- 70-Ctgs: Same with small brown siderite concretions. Green shale frag.
770- 76-Ctgs: Same with more green waxy shale.
776- 90-Ctgs: Same.
790- 98-Ctgs: Brown lime with black rounded concretions.
Crinoid stems.
Small brachiopods.
Ostracods.
798- 805-Ctgs: Same.
805- 15-Ctgs: Dark gray mic. sandy shale and lime frag.
815- 20-Ctgs: Same.
820- 24-Ctgs: Brown lime with abundant **crinoid stems**.
Ostracods.
Productus frag.
Bryozoa.

Pennington & Bangor

- 824- 30-Ctgs: Brown and gray lime with **crinoid stems**.
Brachiopod spines.
830- 35-Ctgs: Light gray crystalline limestone.
835- 41-Ctgs: Same with brown staining.
841- 45-Ctgs: Same.
845- 50-Ctgs: Same with green shale.
850- 55-Ctgs: Green shale and light gray lime.
855- 57-Ctgs: Same.
859- 64-Ctgs: Same.
864- 70-Ctgs: Light gray limestone and green shale.
870- 73-Ctgs: Light gray limestone with slight brown stain.
873- 83-Ctgs: Same and fine-grained sandstone with brown pin-point staining.
883- 95-Ctgs: Greenish fine-grained sandstone with oil staining. Very strong oil show with Chloroform test.
895- 903-Ctgs: Same. Strong show of oil with Chloroform test.

- 903- 10-Ctgs: Greenish fine-grained sandstone with pin-point staining.
 910- 19-Ctgs: Same.
 919- 26-Ctgs: Greenish fine-grained sandstone with slight gray staining
 926- 35-Ctgs: Greenish fine-grained mic. sandstone.
 935- 41-Ctgs: Same with brown lime.
 941- 46-Ctgs: Dark brown cherty limestone.
 946- 54-Ctgs: Same and brown oolitic limestone. Gray limestone.
 954- 59-Ctgs: Same and green shale.
 959- 61-Ctgs: Green shale and gray limestone.
 961- 65-Ctgs: Gray limestone and green shale.
 965- 74-Ctgs: Gray limestone, dark red and green shale.
 974- 79-Ctgs: Same and fine-grained sand.
 979- 83-Ctgs: Same with more light gray lime.
 983- 89-Ctgs: Gray limestone.
 989- 93-Ctgs: Gray limestone.
 993-1001-Ctgs: Gray limestone sl. oolitic, with brown staining. Green shale.
 1001- 09-Ctgs: Light gray partly oolitic limestone, brown stained. Good oil show with Chloroform test.
 1009- 14-Ctgs: Same. Slight show with Chloroform test.
 1014- 19-Ctgs: Light gray limestone.
 1019- 27-Ctgs: Light gray very fossiliferous limestone.
 1027- 32-Ctgs: Light gray limestone.
 1032- 50-Ctgs: Same.
 1050- 57-Ctgs: Same with **crinoid stems**.
 Bryozoa.
 1057- 60-Ctgs: Gray limestone with **Fenestella Bryozoa**.
 Other Bryozoa.
 Crinoid stems.
 1063- 70-Ctgs: Gray and brown fossiliferous limestone.
 1070- 77-Ctgs: Same.
 1077- 80-Ctgs: Same, sl. oolitic.
 1080- 90-Ctgs: Same.
 1090- 92-Ctgs: Same and finely granular limestone.
 1092-1101-Ctgs: Same.
 1101- 11-Ctgs: Gray limestone and finely granular silty lime, brown stained.
 1101- 17-Ctgs: Same and finely granular silty lime, brown stained.
 1117- 26-Ctgs: Grayish brown dense limestone, fossiliferous.
 1126- 48-Ctgs: Same.
 1148- 58-Ctgs: Grayish brown limestone and shale.
 1158- 67-Ctgs: Gray and brown limestone.
 1167- 73-Ctgs: Gray and brown limestone.
 1173- 80-Ctgs: Same.
 Ostracods.
 1180- 88-Ctgs: Same.
 Brachiopods noted.
 1188- 96-Ctgs: Brown limestone and black shale.

- 1196-1203-Ctgs: Same.
Shell frag.
Small gastropods noted.
- 1203- 14-Ctgs: Brown lime and dark gray to black shale.
- 1314- 23-Ctgs: Same with an increasing amount of shale.
- 1223- 30-Ctgs: Brown limestone and gray and black shale.
- 1230- 61-Ctgs: Same.
- 1261- 71-Ctgs: Brown limestone and gray and black shale.
- 1271- 81-Ctgs: Same with more black shale.
- 1281- 85-Ctgs: Same.
- 1285- 90-Ctgs: Brown lime and black shale.
- 1290-1300-Ctgs: Same with more shale.
- 1300- 03-Ctgs: Dark brown cherty limestone and black shale.
- 1303- 09-Ctgs: Same.
- 1309- 12-Ctgs: Brown dense and cherty lime and black shale.
- 1312- 20-Ctgs: Same.
- 1320- 28-Ctgs: Brown very fossiliferous limestone and black shale.
Small pelecypods.
- 1328- 37-Ctgs: Same.
- 1337- 42-Ctgs: Same.
Small gastropods.
Ostracods.
- 1342- 52-Ctgs: Black and dark gray shale and brown claystone.
Pelecypods.
- 1352- 85-Ctgs: Same.
- 1385- 92-Ctgs: Grayish brown hard lime and gray and black shale.
- 1392-1403-Ctgs: Same.
- 1403- 05-Ctgs: Same. **Shells** embedded in shale.
- 1405- 23-Ctgs: Same.
- 1423- 31-Ctgs: Same and pyrite.
- 1431- 39-Ctgs: Same and finely granular shaly lime.
- 1439- 46-Ctgs: Same.
- 1446- 54-Ctgs: Same and gray lime.
- 1454- 65-Ctgs: Same.
- 1465- 72-Ctgs: Same with more black shale.
- 1472- 80-Ctgs: Same.
- 1480- 88-Ctgs: Black calc. shale.
- 1488- 95-Ctgs: Same. **Euphemus** partly replaced by pyrite.
- 1495-1530-Ctgs: Same.
- 1550- 57-Ctgs: Same with fine mica.
- 1557-1615-Ctgs: Same.
- 1615- 23-Ctgs: Black hard dense shale with fine mica.
- 1623- 65-Ctgs: Same.
- 1665- 72-Ctgs: Same with carb. ? material.
- 1672- 77-Ctgs: Same with gray hard fine-grained sandstone.
- 1681- 90-Ctgs: Black shale and pyrite. Fine-grained sandstone, part with brown stain.
- 1690- 97-Ctgs: Very black dense shale and hard fine-grained sandstone brown stained.

- 1697-1710-Ctgs: Same.
 1710- 12-Ctgs: Brownish gray limestone, sandy lime and black shale.
 1712- 17-Ctgs: Gray lime and sandy lime, fossiliferous.
 Crinoid stems.
 1717- 22-Ctgs: Gray limestone and sandy lime, fossiliferous. Black oolites noted.
 1722- 26-Ctgs: Same and greenish shale.
 1726- 31-Ctgs: Gray limestone, greenish shale and fine-grained sandstone, slightly dark stained. Part of sandstone hard, tightly cemented. Pyrite.
 Crinoid stems.

Bethel

- 1731- 34-Ctgs: Medium to fine-grained sandstone with brown stain. Pyrite. Black shale.
 1734- 38-Ctgs: Same.
 1738- 45-Ctgs: Same and limestone frag.
 1745- 49-Ctgs: Same and gray limestone.
 1749- 53-Ctgs: Same with more gray limestone.

Tuscumbia

- 1753- 56-Ctgs: Gray limestone with brown stain. Faint oil show with chloroform test.
 1756- 77-Ctgs: Same.
 1777- 83-Ctgs: Same. 1766-72—Faint oil show with chloroform test.
 Crinoid stems.
 1783- 86-Ctgs: Same, fossiliferous. Distinct oil show with chloroform test.
 1786-1815-Ctgs: Same.
 1815- 20-Ctgs: Same, fossiliferous.
 1820- 53-Ctgs: Same. 1834-43—good oil show with chloroform test.
 1853- 59-Ctgs: Gray limestone brown stained.
 1859- 65-Ctgs: Same.
 1865- 67-Ctgs: Gray limestone with less staining.
 1867- 73-Ctgs: Same.
 1873- 75-Ctgs: Gray and brown limestone, slight staining.
 1875- 88-Ctgs: Same. 1875-78—very faint show of oil with chloroform test.
 1888- 90-Ctgs: Same with more brown limestone.
 1890- 97-Ctgs: Same. 1893-97—dead oil with chloroform test.
 1897-1900-Ctgs: Same with chert.

Fort Payne

- 1900- 03-Ctgs: Brown limestone and chert.
 1903- 05-Ctgs: Brown limestone and chert with pin-point staining.
 1905- 10-Ctgs: Same.
 1910- 13-Ctgs: Same with more chert.
 1913- 27-Ctgs: Same.
 1927- 29-Ctgs: Same with more brown chert.
 1929- 31-Ctgs: Same.

- 1931- 34-Ctgs: Brown limestone and chert.
1934- 50-Ctgs: Same.
1950- 53-Ctgs: Brown limestone and chert.
1953- 57-Ctgs: Brown limestone and chert. Glauconite noted in limestone.
1957- 61-Ctgs: Same.
1961- 65-Ctgs: Brown limestone with gray and brown chert with fine glauconite.
1965- 69-Ctgs: Same with more glauconite.
1969- 75-Ctgs: Same and green shale.
1975- 83-Ctgs: Greenish shale. Brown hard fine-grained sandstone and brownish black shale and sandy shale.

Chattanooga

- 1985- 90-Ctgs: Brownish black shale and hard fine-grained sandstone and sandy shale. Coarse rounded sand grains noted. Light gray chert.
1990- 92-Ctgs: Brownish black shale and fine-grained sandstone and light gray chert and lime with fine glauconite.

Devonian ?

- 1992- 95-Ctgs: Light gray limestone with fine glauconite and chert.
1995- 98-Ctgs: Same with cherty lime and white chert.
1998-2000-Ctgs: Same and buff-colored limestone.
2000- 15-Ctgs: Same.
2015- 17-Ctgs: Same and cherty limestone.
2017- 19-Ctgs: Same.
2019- 24-Ctgs: Same with more chert.
2024- 25-Ctgs: Light gray cherty limestone.
2025- 29-Ctgs: Same.
2029- 33-Ctgs: Same with fine glauconite.
2033- 46-Ctgs: Same.
2046- 48-Ctgs: Light gray chert and cherty limestone.
2048- 54-Ctgs: Same.
2054- 56-Ctgs: Same with more chert.
2056- 60-Ctgs: Same with chert becoming bluish.
2060- 66-Ctgs: Same.
2066- 71-Ctgs: Same and finely granular limestone.
2071- 75-Ctgs: Same and greenish limestone.

Prob. Silurian

- 2075- 80-Ctgs: Same.
2080- 85-Ctgs: Greenish and gray limestone with chert and shaly lime.
2085- 87-Ctgs: Greenish limestone with chert, fossiliferous.
2087- 97-Ctgs: Same.
2097-2102-Ctgs: Same and shaly lime.
2102- 10-Ctgs: Same.
2110- 16-Ctgs: Greenish limestone with **crinoid stems**.
2116- 31-Ctgs: Same.
2131- 35-Ctgs: Greenish limestone with glauconite, fossiliferous.

- 2135- 40-Ctgs: Same.
 2140- 45-Ctgs: Same and gray limestone.
 2145- 50-Ctgs: Same with more gray limestone.
 2150- 56-Ctgs: Same.
 2156- 63-Ctgs: Gray crystalline limestone, fossiliferous.
 2163- 73-Ctgs: Same.
 2173- 78-Ctgs: Same and brownish chert.
 2178- 82-Ctgs: Gray limestone with chert.
 2182-2200-Ctgs: Same.
 2200- 07-Ctgs: Same with gray shaly lime.
 2207- 17-Ctgs: Same with **crinoid stems**.
 Ostracods.
 2217- 24-Ctgs: Same with chert.
 2224- 38-Ctgs: Same.
 2237- 45-Ctgs: Gray limestone and greenish and gray shaly lime.
 2245- 60-Ctgs: Same.
 2260- 69-Ctgs: Gray shaly lime.
 2269- 77-Ctgs: Same.
 2277- 87-Ctgs: Same and light gray limestone.
 2287- 98-Ctgs: Light gray, greenish, red and purple lime.
 2298-2305-Ctgs: Same with dark reddish brown lime.
 2305- 11-Ctgs: Dark reddish brown and purple lime.
 Crinoid stems.
 Ostracods.
 2311- 21-Ctgs: Reddish brown lime.
 2321- 28-Ctgs: Reddish brown lime and shale frag.
 Ostracods.
 2328- 50-Ctgs: Same.
 2350- 62-Ctgs: Reddish brown crystalline limestone.
 2362- 68-Ctgs: Same and pink limestone.
 2368- 82-Ctgs: Same.
 2382- 90-Ctgs: Pink and yellowish crystalline limestone.
 2390-2400-Ctgs: Same.
 2400- 12-Ctgs: Same and brownish gray limestone.
 2412- 20-Ctgs: Gray limestone with small black inclusions.
Ordovician
 2420- 25-Ctgs: Gray limestone with small black inclusions.
 2425- 34-Ctgs: Same.
 2434- 38-Ctgs: Same with dark gray limestone and brownish chert.
 2438- 43-Ctgs: Same with brownish chert and limestone.
 2443- 48-Ctgs: Same.
 2448- 52-Ctgs: Brownish black cherty limestone. Black inclusions noted.
 2452- 58-Ctgs: Same with more chert.
 2458- 61-Ctgs: Same and brown chert.
 2461- 66-Ctgs: Same.
 2466- 74-Ctgs: Same and gray limestone.
 2474- 76-Ctgs: Same with more dark gray limestone.
 2476- 78-Ctgs: Dark gray limestone and chert.
 2478- 89-Ctgs: Same.

- 2489- 93-Ctgs: Same with small black inclusions.
2493-2500-Ctgs: Same and light gray limestone.
2500- 05-Ctgs: Same and buff-colored limestone.
2505- 13-Ctgs: Same.
2513- 19-Ctgs: Buff-colored and light brown limestone.
2519- 37-Ctgs: Same.
2537- 41-Ctgs: Buff-colored and light brown dense limestone.
2441- 50-Ctgs: Same.
2550- 58-Ctgs: Same.
Small brachiopods.
2558- 62-Ctgs: Same with medium grayish brown limestone.
2562- 70-Ctgs: Same.
2570- 75-Ctgs: Grayish brown limestone.
2575- 81-Ctgs: Brownish gray dense limestone.
2581-2604-Ctgs: Same.
2604- 12-Ctgs: Grayish brown fossiliferous limestone.
Ostracods.
2612- 28-Ctgs: Same.
2628- 38-Ctgs: Buff-colored dense and finely granular limestone.
2638- 47-Ctgs: Same.
2647- 53-Ctgs: Same.
Brachiopods noted.
2653- 60-Ctgs: Greenish gray and brownish dense limestone.
2660- 66-Ctgs: Light greenish gray dense limestone.
2666- 75-Ctgs: Greenish gray dense limestone.
2675- 81-Ctgs: Same.
2681- 88-Ctgs: Light greenish gray dense limestone.
2688-2700-Ctgs: Same.
2700- 13-Ctgs: Light greenish gray dense limestone.
2713- 53-Ctgs: Same.
2753- 65-Ctgs: Same and brownish limestone.
2765-2800-Ctgs: Same.
2800- 12-Ctgs: Light greenish gray dense limestone.
2812- 21-Ctgs: Same and finely granular limestone.
2821- 27-Ctgs: Light greenish gray finely granular limestone.
2827- 68-Ctgs: Same.
2868- 75-Ctgs: Light greenish gray finely granular limestone.
2875- 80-Ctgs: Light gray dolomite.
2880- 89-Ctgs: Same.
2889- 98-Ctgs: Light gray limestone.
2898-2907-Ctgs: Light gray dense and finely granular limestone. Greenish shale.
2907- 37-Ctgs: Same.
2937- 43-Ctgs: Light greenish gray finely granular limestone.
2943- 57-Ctgs: Same.
2957- 68-Ctgs: Same and green shale frag.
2968- 87-Ctgs: Same.
2987- 94-Ctgs: Same and green soft shale frag.
2994-3003-Ctgs: Light greenish gray finely granular and dense limestone.

- 3003- 24-Ctgs: Same.
3024- 32-Ctgs: Same and greenish shale.
3032- 38-Ctgs: Same with dolomite and rounded frosted sand grains noted.
3038- 47-Ctgs: Buff-colored finely granular limestone.
3047- 56-Ctgs: Same and dolomite.
3056- 74-Ctgs: Same.
3074- 90-Ctgs: Buff-colored finely granular limestone
3090-3105-Ctgs: Same.
3105- 13-Ctgs: Light gray dolomite.
3127- 34-Ctgs: Same and limestone.
3134- 41-Ctgs: Buff-colored limestone.
3141- 50-Ctgs: Buff-colored dolomite and limestone.
3150- 60-Ctgs: Buff-colored dolomite.
3159- 78-Ctgs: Same.
3178- 89-Ctgs: Same with rounded sand grains.
3189- 97-Ctgs: Same and limestone.
3197-3206-Ctgs: Green shale with fine pyrite.
3206- 12-Ctgs: Same.
3212- 15-Ctgs: Same and light gray limestone.
3215- 17-Ctgs: Same and brown dense limestone.
3217- 28-Ctgs: Same and brown dense limestone.
3228- 34-Ctgs: Same.
3234- 42-Ctgs: Buff-colored dolomite.
3242- 47-Ctgs: Same and light gray limestone.
3247- 51-Ctgs: Same.
3251- 55-Ctgs: Buff-colored fine-grained dolomite.
3255- 60-Ctgs: Buff-colored fine-grained dolomite.
3260- 63-Ctgs: Same and light gray limestone.
3263- 67-Ctgs: Same.
3267- 72-Ctgs: Light gray limestone.
3272- 77-Ctgs: Same and buff-colored limestone.
3277- 81-Ctgs: Medium brownish gray dense limestone.
3281- 85-Ctgs: Same.
3285- 92-Ctgs: Light gray dense limestone.
3292- 95-Ctgs: Same, with occasional rounded sand grains.
3295-3305-Ctgs: Same.
3305- 10-Ctgs: Light gray dense limestone.
3310- 28-Ctgs: Same.
3328- 35-Ctgs: Same, with rounded sand grains embedded in limestone.
3335- 38-Ctgs: Same and brownish limestone.
Ostracods.
3338- 40-Ctgs: Light gray and brown limestone, part cherty.
3340- 45-Ctgs: Same with more chert.
3345- 51-Ctgs: Same.
3351- 60-Ctgs: Same and buff-colored finely granular limestone.
3360- 65-Ctgs: Buff-colored finely granular limestone.
3365- 70-Ctgs: Same and dense limestone.
3370- 76-Ctgs: Same and light gray limestone.

3376-	84-Ctgs:	Gray dense limestone.
3384-	98-Ctgs:	Same.
3398-3404-	Ctgs:	Light gray dense limestone.
3404-	12-Ctgs:	Same and finely granular limestone.
3412-	17-Ctgs:	Same.
3417-	22-Ctgs:	Light gray dense limestone.
3422-	29-Ctgs:	Light gray dense limestone.
3429-	37-Ctgs:	Same and finely granular limestone.
3437-	45-Ctgs:	Light gray limestone.
3445-	52-Ctgs:	Same.
3452-	54-Ctgs:	Same and gray soft mic. bentonitic ? shale.
3454-	62-Ctgs:	Light gray limestone.
3462-	69-Ctgs:	Same.
3469-	76-Ctgs:	Same and brownish dense limestone.
3476-	84-Ctgs:	Brown dense limestone with chert.
3484-	92-Ctgs:	Light gray limestone.
3492-	97-Ctgs:	Same.
3497-3500-	Ctgs:	Light gray dense limestone.
3500-	10-Ctgs:	Same.

Summary

Pennsylvanian	to	820-24'
Top Pennington & Bangor	at	820-24'
Bethel Sandstone	1726-31' to	1745-49'
Tuscumbia & Fort Payne	1749' to	1975-83'
Chattanooga	1975-83' to	1990'
Devonian ?	1990' to	2075'
Silurian	2075' to	2412-20'
Ordovician	at	2412-20'
Prob. Knox	at	3215'

Harry L. Cullet

H. V. Lewis #2

SE/4 of NW/4

Sec. 23—T 11 S—R 14 W

Marion County, Ala.

Elev. 418 ft. D. F.

Began January 20, 1954

Comp. June 8, 1954

95- 102-Ctgs: Gray medium to fine-grained sand and sandstone.

Pennsylvanian

102- 08-Ctgs: Same and gray mic. shale frag.

108- 13-Ctgs: Same and slightly coarse sand.

113- 17-Ctgs: Coarse and medium-grained sand and sandstone.

117- 25-Ctgs: Same.

- 125- 30-Ctgs: Gray medium to fine-grained sandstone with mica, and sand.
- 130- 40-Ctgs: Same.
- 140- 42-Ctgs: Same and coarse sand.
- 142- 50-Ctgs: Same.
- 150- 54-Ctgs: Same with carb. material.
- 154- 90-Ctgs: Same.
- 190- 95-Ctgs: Gravel and sand.
- 195- 200-Ctgs: Coarse sand. Carb. material.
- 200- 05-Ctgs: Same.
- 205- 09-Ctgs: Medium-grained sand.
- 209- 12-Ctgs: Medium-grained sand.
- 212- 15-Ctgs: Same and coarse sand. Brown claystone and pyrite. Fossil wood frag.
- 215- 18-Ctgs: Black carb. shale and coarse sand.
- 218- 23-Ctgs: Same. Pyrite replacing a small **ammonite**.
- 223- 25-Ctgs: Gray fine-grained sandstone. Coarse sand. Gray to black shale. Crinoid stems.
- 225- 30-Ctgs: Fine-grained sand.
- 230- 34-Ctgs: Gray hard medium-grained sandstone and dark gray mic. sandy shale.
- 234- 40-Ctgs: Same with reddish brown shale and sandstone.
- 240- 50-Ctgs: Medium-grained sandstone, and dark gray to black mic., carb. shale.
- 250- 57-Ctgs: Same with brown claystone.
- 257- 62-Ctgs: Gray fine-grained sandstone and sandy shale, with mica.
- 262- 69-Ctgs: Same with medium-grained sandstone and sand.
- 269- 76-Ctgs: Light gray medium to fine-grained sandstone and sand.
- 276- 82-Ctgs: Gray hard fine-grained sandstone and gray mic. carb. sandy shale.
- 282- 300-Ctgs: Same.
- 300- 08-Ctgs: Light gray hard fine-grained sandstone and sandy mic. carb. shale.
- 308- 15-Ctgs: Light gray medium-grained sandstone and black carb. shale.
- 315- 20-Ctgs: Light gray medium-grained sand and sandstone and sandy shale.
- 320- 25-Ctgs: Gray fine-grained sandstone and sandy shale.
- 325- 29-Ctgs: Same with medium-grained sand and black shale.
- 329- 33-Ctgs: Light gray medium-grained sandstone and sandy shale.
- 332- 39-Ctgs: Same and brownish sandstone.
- 339- 45-Ctgs: Gray mic., carb. sandy shale.
- 345- 52-Ctgs: Light gray hard fine-grained sandstone and sandy mic. carb. shale.
- 352- 59-Ctgs: Medium to coarse-grained sand and sandstone and sandy shale.
- 359- 63-Ctgs: Medium to fine-grained sand.
- 363- 66-Ctgs: Medium to coarse-grained sand.

- 366- 72-Ctgs: Medium to coarse-grained sand and sandstone.
372- 92-Ctgs: Same.
392- 98-Ctgs: Medium to fine-grained sand and sandstone.
398- 404-Ctgs: Gray medium to fine-grained sand and sandstone.
404- 27-Ctgs: Same.
427- 36-Ctgs: Medium and coarse-grained sand and sandstone.
436- 70-Ctgs: Same.
470- 76-Ctgs: Medium-grained sand and sandstone.
476- 83-Ctgs: Same and fine-grained sand.
483- 90-Ctgs: Same.
490- 97-Ctgs: Same and coarse-grained sandstone. Brown claystone noted. Carb. material.
497- 504-Ctgs: Medium-grained sand and sandstone. Brown sandstone. Brown claystone.
504- 10-Ctgs: Same.
510- 15-Ctgs: Gray medium-grained sand and fine-grained sandstone and sandy shale. Brown claystone.
515- 18-Ctgs: Fine-grained sandstone and sandy shale. Brown claystone.
518- 35-Ctgs: Same.
542- 49-Ctgs: Light gray medium-grained sandstone.
549- 54-Ctgs: Light gray sandstone and black mic. carb. sandy shale. Brown claystone.
554- 60-Ctgs: Black mic. carb. sandy shale. Brown claystone and sand.
560- 69-Ctgs: Same.
569- 73-Ctgs: Same and gray hard sandstone.
573- 80-Ctgs: Same.
580- 85-Ctgs: Gray sandy shale with abundant small siderite concretions.
585- 90-Ctgs: Gray hard sandy shale with mica. Small brown siderite concretions.
590- 95-Ctgs: Same.
595- 600-Ctgs: Same and brown claystone, pyrite.
600- 09-Ctgs: Same and black mic., carb. shale.
609- 17-Ctgs: Same.
617- 28-Ctgs: Same.
Crinoid stems noted.
628- 35-Ctgs: Gray sandy mic. shale.
635- 57-Ctgs: Same.
657- 65-Ctgs: Same and black shale.
665- 70-Ctgs: Black mic., carb. shale and gray sandy shale.
670- 80-Ctgs: Same with coal. Gray hard fine-grained sandstone.
680- 89-Ctgs: Gray fine-grained sandstone.
689- 99-Ctgs: Same and gray medium-grained sandstone.
699- 705-Ctgs: Gray medium-grained sandstone.
705- 12-Ctgs: Gray medium-grained sand and sandstone.
712- 17-Ctgs: Same and gray sandy shale. Carb. material noted.
717- 22-Ctgs: Gray mic. sandy shale.
722- 30-Ctgs: Gray mic. carb. sandy shale.
730- 35-Ctgs: Gray to black mic. carb. sandy shale. Brown claystone.

- 735- 40-Ctgs: Gray hard fine-grained sandstone and mic. sandy shale.
Brown sl. calc. claystone.
Crinoid stems.
- 740- 45-Ctgs: Same.
- 745- 50-Ctgs: Same with gray to black sandy shale.
- 750- 57-Ctgs: Black hard shale with fine mica. Brown claystone.
- 757- 67-Ctgs: Dark gray to black hard sandy mic. shale.
- 767- 73-Ctgs: Same.
- 773- 80-Ctgs: Dark gray hard sandy shale.
- 780- 86-Ctgs: Gray hard fine-grained sandstone and sandy shale.
- 786- 93-Ctgs: Same and black shale. Brown lime frag.
- 793- 98-Ctgs: Gray sandy shale, brown claystone. Siderite concretions
in gray shale. Brown lime.
- 798- 803-Ctgs: Same with black shale.
- 803- 08-Ctgs: Black shale, pyrite, brown claystone. Masses of very small
siderite concretions.
- 808- 17-Ctgs: Same.
- 817- 27-Ctgs: Same and light greenish gray clay with abundant siderite
concretions.
- 827- 34-Ctgs: Same with abundant siderite concretions.
- 834- 45-Ctgs: Same.
- 845- 55-Ctgs: Same with reddish sandy shale.
Crinoid stems.
- 855- 63-Ctgs: Brown hard lime with abundant **crinoid stems**. Black
oolites.
Small shells abundant.
Brachiopods.

Pennington

- 863- 75-Ctgs: Same.
- 875- 82-Ctgs: Dark gray sandy shale and black shale.
- 882- 91-Ctgs: Gray hard fine-grained sandstone.
- 891- 98-Ctgs: Same and sandy shale.
- 898- 905-Ctgs: Same and brown hard lime.
Crinoid stems and Bryozoa.
Brachiopod spines.
- 905- 14-Ctgs: Green soft shale and hard lime. Light gray lime. Dark
red clay.
- 914- 24-Ctgs: Same.
- 924- 32-Ctgs: Same.
Bryozoa.
- 932- 39-Ctgs: Same and brown fossiliferous limestone and shale.
- 939- 45-Ctgs: Brown hard fossiliferous lime.
- 945- 50-Ctgs: Same.
- 950- 58-Ctgs: Dark gray sandy shale.
- 958- 64-Ctgs: Brown hard limestone.
- 964- 72-Ctgs: Green and dark red clay and limestone frag.
- 972- 78-Ctgs: Same with light gray lime and sandstone. Sandstone with
pinpoint staining.
- 978- 86-Ctgs: Light gray and greenish fine-grained sandstone and shale.

- 986- 93-Ctgs: Light gray fine-grained sandstone with some staining.
Strong oil show with Chloroform test.
- 993-1000-Ctgs: Same.
Faint oil show with Chloroform test.
- 1000- 06-Ctgs: Same.
- 1006- 15-Ctgs: Gray hard mic. sandy shale.
- 1015- 25-Ctgs: Same with brown dense and cherty limestone.
- 1025- 35-Ctgs: Green and dark red clay and greenish dense lime.
- 1035- 42-Ctgs: Same and greenish limestone.
- 1042- 47-Ctgs: Same and medium-grained sandstone.
- 1047- 55-Ctgs: Same with more medium-grained sandstone, brown staining ?
- 1055- 59-Ctgs: Light gray limestone, fossiliferous, dark red and green clay.

Bangor

- 1059- 64-Ctgs: Light gray limestone, fossiliferous.
Crinoid stems.
- 1064- 70-Ctgs: Same with slight staining.
- 1070- 97-Ctgs: Same. 1077-85—Very faint show with Chloroform test.
- 1097-1100-Ctgs: Gray crystalline limestone.
- 1100- 06-Ctgs: Same and green soft shale.
- 1106- 17-Ctgs: Same.
- 1117- 25-Ctgs: Same and gray finely granular limestone.
- 1125- 34-Ctgs: Brownish gray fossiliferous limestone.
- 1134- 39-Ctgs: Same and brownish chert.
- 1139- 45-Ctgs: Brownish gray fossiliferous limestone.
- 1145- 50-Ctgs: Same.
- 1150- 57-Ctgs: Same with **Fenestella Bryozoa**.
Crinoid stems.
- 1157- 65-Ctgs: Same with **Bryozoa**.
Crinoid stems.
- 1165- 80-Ctgs: Same.
- 1180- 86-Ctgs: Brownish gray fossiliferous limestone.
- 1186-1207-Ctgs: Same.
- 1207- 12-Ctgs: Gray, dark gray to black limestone and shale.
- 1212- 16-Ctgs: Same.
- 1216- 25-Ctgs: Same and brownish black limestone.
- 1225- 30-Ctgs: Same.
- 1230- 34-Ctgs: Dark brownish dense limestone.
- 1234- 48-Ctgs: Same.
- 1248- 54-Ctgs: Same, fossiliferous.
- 1254- 60-Ctgs: Dark gray dense limestone and shaly lime, fossiliferous.
- 1260- 72-Ctgs: Same.
- 1272- 79-Ctgs: Same and black shale.
- 1279- 84-Ctgs: Same.
- 1284- 90-Ctgs: Brown limestone, fossiliferous and black shale.
- 1290-1302-Ctgs: Same.
- 1302- 05-Ctgs: Same with gray limestone.
- 1305- 20-Ctgs: Same.

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| 1320- | 26-Ctgs: | Black shale and gray limestone. |
| 1326- | 34-Ctgs: | Same. |
| 1334- | 42-Ctgs: | Dark red and green soft shale, from above ? |
| 1342- | 48-Ctgs: | Brown and gray lime and black shale. |
| 1348- | 55-Ctgs: | Same. |
| 1355- | 60-Ctgs: | Brown limestone. |
| 1360- | 67-Ctgs: | Same and black shale. |
| 1367- | 75-Ctgs: | Same. Brown chert noted. |
| 1375- | 81-Ctgs: | Same. |
| 1381- | 87-Ctgs: | Black shale. |
| 1387- | 95-Ctgs: | Same and brown limestone. |
| 1395-1404- | Ctgs: | Black shale and gray limestone. |
| 1404- | 10-Ctgs: | Black shale and gray limestone. |
| 1410- | 12-Ctgs: | Brown limestone and black shale. |
| 1412- | 17-Ctgs: | Brown limestone and black shale. |
| 1417- | 31-Ctgs: | Same. |
| 1431- | 38-Ctgs: | Same with brown chert. |
| 1438- | 44-Ctgs: | Brown limestone and black shale, fossiliferous. |
| 1444- | 52-Ctgs: | Black shale, soft, fossiliferous. Pyrite. |
| 1452- | 62-Ctgs: | Same and brown claystone. |
| 1462- | 89-Ctgs: | Same. |
| 1489- | 97-Ctgs: | Black fossiliferous shale, soft. |
| 1497-1503- | Ctgs: | Same. |
| 1503- | 07-Ctgs: | Same. Vein calcite noted. |
| 1507- | 15-Ctgs: | Black soft shale with pyrite. |
| 1515- | 21-Ctgs: | Same. |
| 1521- | 30-Ctgs: | Same.
Ostracods. |
| 1530- | 36-Ctgs: | Same. |
| 1536- | 44-Ctgs: | Black soft shale. |
| 1544- | 50-Ctgs: | Same and brown limestone. |
| 1550- | 57-Ctgs: | Gray shale and lime with phosphatic ? material.
Crinoid stems. |
| 1557- | 70-Ctgs: | Same. |
| 1577- | 85-Ctgs: | Gray lime and black shale. Pyrite.
Crinoid stems. |
| 1585-1663- | Ctgs: | Same. |
| 1663- | 70-Ctgs: | Same. Brown claystone. |
| 1670-1700- | Ctgs: | Same. |
| 1700- | 07-Ctgs: | Same and dark red and green clay from above. |
| 1707- | 17-Ctgs: | Black shale, calc. |
| 1717- | 70-Ctgs: | Same. |
| 1770- | 76-Ctgs: | Gray hard fine-grained sandstone with dark staining. Pyrite cementing part of sandstones. Black carb. shale and sandy shale. |
| 1776- | 80-Ctgs: | Black shale, pyrite. Sandstone frag. |
| 1780- | 87-Ctgs: | Same. |
| 1787- | 94-Ctgs: | Black shale. Pyrite. |

- 1794-1800-Ctgs: Black shale. Gray lime. Pyrite.
Crinoid stems abundant.
1800- 12-Ctgs: Same and medium-grained sandstone.
Crinoid stems abundant.

Bethel

- 1812- 19-Ctgs: Medium-grained sand.
1819- 21-Ctgs: Medium to fine-grained sand.
1821- 24-Ctgs: Same.
1824- 27-Ctgs: Medium-grained sand and sandstone.
1827- 35-Ctgs: Same.
1835- 43-Ctgs: Same with carb. sandy shale. Pyrite.
1843- 47-Ctgs: Sand and grayish brown fossiliferous limestone.
1847- 53-Ctgs: Grayish brown fossiliferous limestone.
Abundant crinoid stems; pentagonal forms noted.
1853- 67-Ctgs: Gray limestone brown oil ? stained.

Tuscumbia

- 1867- 75-Ctgs: Gray limestone and white chert, brown stained.
1875- 83-Ctgs: Same.
1883- 88-Ctgs: Brown stained lime and white chert.
1888- 95-Ctgs: Gray limestone and bluish gray chert.
1895-1905-Ctgs: Same with more bluish chert.
1905- 10-Ctgs: Brown and gray limestone and chert.
1910- 13-Ctgs: Same.
1913- 18-Ctgs: Same and bluish gray chert.
1918- 25-Ctgs: Brownish limestone and buff-colored chert.
1925- 30-Ctgs: Gray and brown limestone. Buff-colored and bluish chert.
1930- 36-Ctgs: Same.
1936- 39-Ctgs: Same with brown and bluish chert.
1939- 51-Ctgs: Light gray limestone with chert. **Crinoid stems.** Brown staining.
1951- 66-Ctgs: Same.
1966- 74-Ctgs: Same with brown limestone.
1974- 81-Ctgs: Brown cherty limestone with staining.
1981- 85-Ctgs: Gray and brown limestone with staining.
Crinoid stems.
1985- 95-Ctgs: Light gray limestone brown stained.
Crinoid stems.
1995-2008-Ctgs: Same.

- 2008- 17-Ctgs: Gray dense cherty limestone brown stained.

Fort Payne

- 2017- 23-Ctgs: Gray dense limestone brown stained.
2023- 28-Ctgs: Light gray limestone brown stained.
2028- 31-Ctgs: Grayish brown dense limestone, sl. brown stained. Part chert.
2031- 38-Ctgs: Brown cherty limestone.
2038- 45-Ctgs: Brown dense limestone, sl. cherty, with very fine glauconite in limestone.

- 2045- 51-Ctgs: Brown limestone, gray limestone and shaly lime with glauconite and pyrite.
 2051- 58-Ctgs: Brown hard fine-grained sandstone. Sandstone with phosphatic inclusions. Brownish black shale. Greenish lime.

Chattanooga

- 2058- 65-Ctgs: Brownish black shale. Coarse rounded sand grains noted. Lingula.
 Spores.

- 2065- 69-Ctgs: Light gray cherty limestone with fine glauconite.

Devonian ?

- 2069- 87-Ctgs: Same.
 2087- 92-Ctgs: Same and sl. buff-colored limestone.
 2092- 95-Ctgs: Same with slight brown staining.
 2095-2100-Ctgs: Same.
 2100- 10-Ctgs: Light gray cherty limestone.
 2110- 20-Ctgs: Light gray cherty limestone with fine glauconite.
 2120- 52-Ctgs: Same.
 2152- 63-Ctgs: Light gray limestone and chert.
 2163- 70-Ctgs: Same and bluish chert.
 2170- 76-Ctgs: Same.
 2176- 83-Ctgs: Gray to slightly greenish gray cherty limestone.
 2183- 91-Ctgs: Same.

Summary

Pennsylvanian	to.....	855'
Pennington & Bangor	at.....	855'
Bethel Sandstone	at.....	1800-12'
Tuscumbia	at.....	1853-67'
Fort Payne	at.....	2008-17'
Chattanooga	at.....	2051-58'
Devonian	at.....	2065-69'

Completed as a gas well at 1817-35', Bethel sandstone.

MARSHALL COUNTY

W. W. Newman

Whitaker #1

Center of W/2 of Sec. 3—T 7 S—R 3 E

Marshall County, Ala.

Elev. 626 ft.

Began July, 1943

Comp. October 5, 1943

- 18- 25-Ctgs: Brown crystalline limestone.
25- 30-Ctgs: Brown crystalline and oolitic limestone.
Crinoid stems.
Pentagonal crinoid stems.

Bangor

- 30- 35-Ctgs: Brown crystalline limestone.
Crinoid stems.
35- 40-Ctgs: Brown crystalline limestone. **Crinoid stems.** Brown chert noted.
40- 45-Ctgs: Brown crystalline limestone with **crinoid stems.** Black shale frag. noted. Oolitic limestone frag. Crystalline calcite.
Small brachiopod noted.
45- 50-Ctgs: Brown oolitic limestone.
50- 55-Ctgs: Same and crystalline limestone.
Crinoid stems noted.
55- 60-Ctgs: Brown crystalline and oolitic limestone with **crinoid stems.**
60- 65-Ctgs: Same.
65- 70-Ctgs: Brown crystalline limestone with **crinoid stems.** Oolitic limestone and crystalline calcite present.
70- 75-Ctgs: Brown and gray crystalline limestone. Oolitic limestone noted.
75- 80-Ctgs: Brown crystalline and oolitic limestone.
80- 85-Ctgs: Brown crystalline limestone with **Fenestella Bryozoa.**
Other Bryozoa frag.
Crinoid stems.
85- 90-Ctgs: Brown crystalline limestone, soft gray shale noted.
Crinoid stems.
Bryozoa frag.
90- 95-Ctgs: Brown crystalline limestone. Black shale frag.
Pentagonal and other crinoid stems.
Fenestella Bryozoa.
95- 100-Ctgs: Same.
100- 05-Ctgs: Same and oolitic limestone. Black shale noted.
105- 10-Ctgs: Brown and gray oolitic and crystalline limestone.
Ostracods.

- 110- 15-Ctgs: Brown crystalline, dense and oolitic limestone. Gray and greenish gray shale.
- 115- 20-Ctgs: Brown and grayish dense limestone. Gray shale noted.
- 120- 25-Ctgs: Same and brown crystalline limestone.
- 125- 30-Ctgs: Grayish brown dense limestone. Black shale frag.
- 130- 35-Ctgs: Brown and grayish dense and crystalline limestone; gray shale frag. noted, and plates.
- 135- 40-Ctgs: Gray to brown oolitic limestone. **Crinoid stems.** Greenish gray shale frag.
Small pelecypods.
Brachiopod impressions and fragments.
Ostracods.
Small gastropods.
- 140- 45-Ctgs: Same.
Small gastropods and brachiopods.
- 145- 50-Ctgs: Same and brown crystalline limestone, greenish gray shale frag.
- 150- 55-Ctgs: Brown crystalline and oolitic limestone, greenish gray shale.
- 155- 60-Ctgs: Brown crystalline limestone with small amount of oolitic limestone, greenish gray shale frag.
- 160- 65-Ctgs: Brown coarsely crystalline and oolitic limestone with **crinoid stems**; greenish gray shale with pyrite.
Ostracods noted.
- 165- 70-Ctgs: Gray and brown finely crystalline or granular limestone and brown oolitic limestone. Greenish gray shale frag.
- 170- 75-Ctgs: Light brown to gray oolitic limestone. **Crinoid stems.** Greenish gray shale frag.
- 175- 80-Ctgs: Grayish brown crystalline and oolitic limestone with **crinoid stems.** Greenish gray shale frag.
- 180- 85-Ctgs: Brown finely granular limestone and brown oolitic limestone present.
- 185- 90-Ctgs: Brown oolitic and granular limestone.
- 190- 95-Ctgs: Brown finely granular limestone with **crinoid stems.** Coarsely crystalline limestone. Black shale noted.
- 195- 200-Ctgs: Brown coarsely crystalline and granular limestone. Increasing amount of black shale. Black sandy shale with calcareous cementing material; composed of poorly sorted sand.
- 200- 05-Ctgs: Greenish gray sandy fossiliferous limestone and shaly lime and brown crystalline limestone. Sandstone and sandy shale noted.
Fenestella Bryozoa.
Crinoid stems.
Small brachiopods.
Archimedes ? frag.

- 205- 10-Ctgs: Brown crystalline and oolitic limestone with **crinoid stems**.
Green sandy shale.
Fenestella and other Bryozoa.
Small Brachiopods.
- 210- 15-Ctgs: Same with gray sandy shale. Greenish gray shale with **Fenestella Bryozoa**.
- 215- 20-Ctgs: Greenish gray shale with **Fenestella Bryozoa**. **Other Bryozoa**. Gray to brown crystalline limestone.
Crinoid stems.
- 220- 25-Ctgs: Greenish gray shale with **Fenestella Bryozoa** and **crinoid stems**. **Other Bryozoa**. Brown limestone.
- 225- 30-Ctgs: Same.
Crinoid stems.
- 230- 35-Ctgs: Light gray finely granular limestone and brown limestone.

Probably Gasper

- 235- 40-Ctgs: Greenish gray crystalline and granular limestone.
- 240- 45-Ctgs: Gray crystalline limestone. Greenish shale from above and **crinoid stems**.
- 245- 50-Ctgs: Same.
- 250- 55-Ctgs: Gray crystalline limestone.
- 255- 60-Ctgs: Gray and brown crystalline and granular limestone.
- 260- 65-Ctgs: Greenish gray coarsely crystalline limestone and granular limestone.
- 265- 70-Ctgs: Greenish gray coarsely crystalline limestone.
- 270- 75-Ctgs: Gray crystalline limestone.
- 275- 80-Ctgs: Brown oolitic and crystalline limestone.
- 280- 85-Ctgs: Same with large **crinoid stems** and chert.
- 285- 90-Ctgs: Light gray and brown crystalline limestone. Greenish gray shaly lime.
- 290- 95-Ctgs: Light brown oolitic limestone and crystalline limestone.
- 295- 300-Ctgs: Same.
- 300- 05-Ctgs: Same and green shale, and shaly lime.
- 305- 10-Ctgs: Greenish gray crystalline limestone, slightly oolitic. Green shale noted. **Crinoid stems**.
- 310- 15-Ctgs: Light greenish gray crystalline and oolitic limestone.
- 315- 20-Ctgs: Same.
- 320- 25-Ctgs: Light greenish gray crystalline and oolitic limestone.
Coral frag. noted.
- 325- 30-Ctgs: Light brown crystalline limestone, greenish gray granular limestone.
- 330- 35-Ctgs: Oolitic limestone noted. Greenish gray limestone and shaly lime carrying **Fenestella Bryozoa** and **crinoid stems**.
- 335- 40-Ctgs: Greenish gray limestone and shale.
Crinoid stems and Fenestella Bryozoa noted.
- 340- 45-Ctgs: Greenish gray limestone and shale with **Fenestella Bryozoa**.
Crinoid stems.

- 345- 50-Ctgs: Light brown crystalline limestone.
Shell impressions noted.

Prob. St. Genevieve

- 350- 55-Ctgs: Light gray coarsely crystalline limestone; light brown crystalline limestone.
- 355- 60-Ctgs: Brown crystalline limestone, green streaks noted.
- 360- 65-Ctgs: Light gray and brown crystalline limestone, slight asphaltic stain noted. Occasional rounded quartz grains. Crinoid stems.
- 365- 70-Ctgs: Light brown and gray crystalline limestone with **crinoid stems**.
- 370- 75-Ctgs: Brown limestone, part crystalline, with an abundance of **crinoid stems**.
Endothyra cf. baileyi.
- 375- 80-Ctgs: Light brown crystalline limestone with slight asphaltic stain.
Small gastropods.
Crinoid stems.
Endothyra cf. baileyi.
- 380- 85-Ctgs: Same.
Endothyra cf. baileyi.
- 385- 90-Ctgs: Light gray coarsely crystalline limestone with a slight greenish tinge.
- 390- 95-Ctgs: Light brownish gray crystalline limestone.
- 395- 400-Ctgs: Light brown crystalline limestone.
- 400- 10-Ctgs: Same.
- 410- 15-Ctgs: Light gray crystalline limestone, fossiliferous.
Notation on bag: "Odor of oil."
- 415- 20-Ctgs: Same.
- 420- 25-Ctgs: Brown crystalline limestone with asphaltic residue in part of limestone.
Endothyra noted.
- 425- 30-Ctgs: Light brown crystalline to granular limestone.
- 430- 35-Ctgs: Brown crystalline and finely oolitic limestone, with cavernous appearance and asphaltic residue.
- 435- 40-Ctgs: Same.
- 440- 45-Ctgs: Light brown crystalline limestone with white chert.
- 445- 50-Ctgs: Light brown crystalline limestone.
- 450- 55-Ctgs: Light brown crystalline limestone, chert.
Ostracods.
- 455- 60-Ctgs: Brown crystalline and oolitic limestone.
- 460- 65-Ctgs: Brown oolitic limestone.
Notation on bag: "Slight trace of oil."
- 465- 70-Ctgs: Brown crystalline and oolitic limestone.
- 470- 75-Ctgs: Brown crystalline and oolitic limestone.
Small brachiopod and crinoid stems noted.
- 475- 80-Ctgs: Brown crystalline and oolitic limestone.
Crinoid stems noted.

- 480- 85-Ctgs: Brown crystalline limestone, fossiliferous.
- Tuscumbia**
- 485- 90-Ctgs: Same.
- 490- 95-Ctgs: Same.
- Crinoid stem noted.
- 495- 500-Ctgs: Brown granular limestone.
- 500- 05-Ctgs: Same and chert.
- 505- 10-Ctgs: Light brown granular and crystalline limestone.
- 510- 15-Ctgs: Brown granular and crystalline limestone.
- 515- 20-Ctgs: Brown granular limestone and chert.
- 520- 25-Ctgs: Light brown granular limestone.
- 525- 35-Ctgs: Same.
- 535- 40-Ctgs: Brown crystalline limestone.
- 540- 45-Ctgs: Brown crystalline limestone, fossiliferous.
- 545- 50-Ctgs: Brown crystalline limestone. Chert.
- 550- 55-Ctgs: Brown crystalline limestone, fossiliferous. Chert.
- 555- 60-Ctgs: Brown crystalline limestone, fossiliferous; brown and bluish chert.
- 560- 65-Ctgs: Brown crystalline limestone; brown and bluish chert.
- Crinoid stems.
- 565- 70-Ctgs: Brown granular and crystalline limestone and brown chert.

Probably Fort Payne

- 570- 75-Ctgs: Brown and whitish chert and granular limestone.
- 575- 80-Ctgs: Brown granular limestone with impressions of **Fenestella Bryozoa noted**. Brown and bluish chert.
- 580- 85-Ctgs: Brown and bluish chert, gray and brown crystalline limestone.
- 585- 90-Ctgs: Same with more limestone.
- 590- 95-Ctgs: Brown and gray crystalline limestone, brown, white and bluish chert.
- 595- 600-Ctgs: Brown, white and bluish chert, brown crystalline and granular limestone.

Notation on bag: "Trace of oil."

- 600- 05-Ctgs: Brown granular limestone, brown, bluish and white chert.
- Crinoid stems noted.

Notation on bag: "Trace of oil."

Fort Payne

- 605- 10-Ctgs: Gray crystalline limestone, white and bluish chert.
- 610- 25-Ctgs: Same.
- 625- 30-Ctgs: Light gray crystalline limestone and bluish and white chert.
- 630- 35-Ctgs: Light gray crystalline limestone and white and bluish chert.
- 635- 40-Ctgs: White and bluish chert and gray crystalline limestone.
- 640- 50-Ctgs: Same.
- 650- 55-Ctgs: Bluish and white chert and gray crystalline limestone.

- 655- 60-Ctgs: Same.
 660- 70-Ctgs: Same.
 670- 75-Ctgs: Gray crystalline limestone, bluish and white chert.
 675- 80-Ctgs: Light gray coarsely crystalline limestone, bluish and white chert.
 680- 85-Ctgs: Light gray finely granular limestone and bluish chert.
 685- 90-Ctgs: Gray finely granular limestone and bluish chert.
 690- 95-Ctgs: Same.
 695- 700-Ctgs: Same with less chert.
 700- 05-Ctgs: Same.
 705- 10-Ctgs: Light brownish gray limestone and bluish chert.
 710- 15-Ctgs: Same.
 715- 20-Ctgs: Brownish chert and grayish limestone.
 720- 25-Ctgs: Brownish chert and grayish limestone.
 725- 29-Ctgs: Brown and bluish chert and limestone.
 729- 32-Ctgs: Bluish chert and brownish gray limestone. Black shale frag. noted.
 732- 37-Ctgs: Black shale with pyrite inclusions.

Chattanooga

- 737- 42-Ctgs: Same.
 Conodonts noted.
 742- 47-Ctgs: Same, and gray limestone, fossiliferous.
 Ostracods.

Silurian

- 747- 55-Ctgs: Brownish gray crystalline and granular limestone, fossiliferous. **Ostracods** and **Bryozoa** noted. Calcite veins in limestone.
 755- 60-Ctgs: Pink and gray coarsely crystalline limestone. **Coral frag. Crinoid stems; brachiopod.** Limestone and shale from above.
 760- 65-Ctgs: Gray and pink crystalline limestone with sand grains.
 765- 70-Ctgs: Same.
 770- 75-Ctgs: Same. Bluish chert noted.
 775- 80-Ctgs: Pink-tinged greenish gray and yellow limestone.
 780- 85-Ctgs: Same.
 785- 90-Ctgs: Same with pyrite. Reddish brown limestone. Chert noted.
 790- 95-Ctgs: Same.

Summary

Bangor, Gasper & St. Genevieve	to	480'
Tuscumbia & Fort Payne	480' to	732-37'
Chattanooga	732-37' to	742-47'
Silurian	742-47' to	795' T.D.

W. P. Young

Albert Black #1

W/2 of SE/4 of NW/4

Sec. 22—T 7 S—R 1 E

Marshall County, Ala.

Elev. 975 ft. D. F. Alt.

Began July 26, 1954

Comp. November 4, 1954

- 0- 5-Ctgs: Gray hard limestone.
Archimedes frag.

Pennington and Bangor

- 5- 10-Ctgs: Same and coarse-grained hard sandstone.
10- 25-Ctgs: Same.
25- 30-Ctgs: Same and coarse sand.
30- 31-Ctgs: Gray hard limestone.
Crinoid stems.
31- 35-Ctgs: Gray dense limestone.
35- 40-Ctgs: Same.
40- 45-Ctgs: Same with soft shale.
45- 50-Ctgs: Gray dense limestone. Chert noted.
50- 55-Ctgs: Gray cherty limestone.
55- 60-Ctgs: Gray fossiliferous limestone.
60- 65-Ctgs: Gray dense limestone.
65- 70-Ctgs: Gray fossiliferous limestone.
70- 75-Ctgs: Same.
75- 80-Ctgs: Gray limestone with chert.
80- 85-Ctgs: Same.
Crinoid stems.
85- 90-Ctgs: Light gray limestone, part oolitic.
90- 95-Ctgs: Same.
95- 100-Ctgs: Gray limestone.
100- 05-Ctgs: Same.
105- 10-Ctgs: Gray limestone, part oolitic; green shale.
110- 15-Ctgs: Same with dark red clay.
115- 20-Ctgs: Greenish limestone. Chert noted.
120- 25-Ctgs: Same and purple clay.
125- 30-Ctgs: Same and green clay.
130- 35-Ctgs: Green limestone and shale.
135- 40-Ctgs: Same.
140- 45-Ctgs: Same and brownish dense limestone.
145- 50-Ctgs: Greenish limestone and shale.
150- 55-Ctgs: Same.
155- 60-Ctgs: Same with chert.
160- 70-Ctgs: Same.
170- 75-Ctgs: Same and gray limestone.
175- 80-Ctgs: Same and light gray limestone.
180- 85-Ctgs: Same.

- 185- 90-Ctgs: Greenish limestone and shale.
190- 95-Ctgs: Brown limestone and chert.
195- 200-Ctgs: Brown limestone.
200- 15-Ctgs: Same.
215- 20-Ctgs: Gray oolitic limestone.
220- 25-Ctgs: Same.
Ostracods noted.
225- 30-Ctgs: Same.
230- 35-Ctgs: Same with gray and brown limestone.
235- 40-Ctgs: Light gray and brownish limestone.
240- 45-Ctgs: Gray finely granular limestone.
245- 50-Ctgs: Same.
250- 55-Ctgs: Greenish gray oolitic limestone.
255- 60-Ctgs: Gray finely granular limestone.
260- 70-Ctgs: Same.
270- 80-Ctgs: Grayish brown limestone.
280- 285-Ctgs: Same.
285- 90-Ctgs: Gray oolitic limestone.
290- 300-Ctgs: Grayish brown limestone.
300- 05-Ctgs: Same, part oolitic.
305- 10-Ctgs: Gray oolitic limestone.
310- 20-Ctgs: Same and brownish gray limestone.
320- 25-Ctgs: Brown dense and finely granular limestone.
325- 30-Ctgs: Same with black shale.
330- 35-Ctgs: Gray and brownish gray limestone.
335- 40-Ctgs: Same.
340- 45-Ctgs: Gray limestone.
345- 50-Ctgs: Gray and brownish limestone.
350- 55-Ctgs: Same.
355- 60-Ctgs: Gray limestone, part oolitic.
Crinoid stems.
360- 71-Ctgs: Gray oolitic limestone; brown limestone.
371- 83-Ctgs: Gray limestone.
383- 85-Ctgs: Gray finely granular limestone.
385- 90-Ctgs: Grayish brown limestone.
390- 95-Ctgs: Brown finely granular limestone.
395- 400-Ctgs: Same and gray oolitic limestone.
400- 05-Ctgs: Gray oolitic limestone.
405- 10-Ctgs: Gray oolitic limestone.
410- 15-Ctgs: Gray finely granular limestone.
415- 20-Ctgs: Gray limestone.
420- 25-Ctgs: Gray limestone.
425- 30-Ctgs: Gray finely granular limestone.
430- 40-Ctgs: Same.
440- 45-Ctgs: Same and gray oolitic limestone.
445- 70-Ctgs: Gray oolitic limestone.
470- 80-Ctgs: Gray limestone.
480- 85-Ctgs: Gray oolitic limestone.
485- 95-Ctgs: Gray limestone.

- 495- 500-Ctgs: Gray limestone with **Fenestella Bryozoa**.
 500- 20-Ctgs: Gray finely granular limestone with **crinoid stems**.
 Bryozoa.
 530- 35-Ctgs: Sand, medium-grained rounded grains. Light gray limestone.

Hartselle

- 535- 40-Ctgs: Sand, gray limestone and soft shale with **Fenestella Bryozoa** from above ?
 540- 45-Ctgs: Brownish gray fossiliferous limestone. Sand.
 Bryozoa.
 Crinoid stems.
 Small brachiopods.

Gasper

- 545- 50-Ctgs: Gray dense limestone. Oolitic limestone noted.
 550- 55-Ctgs: Gray crystalline and oolitic limestone.
 550- 60-Ctgs: Gray oolitic limestone.
 560- 65-Ctgs: Gray limestone.
 565- 85-Ctgs: Gray limestone and shale with **Bryozoa**.
 585- 95-Ctgs: Gray limestone, fossiliferous.
 595- 600-Ctgs: Same with dark red shaly limestone and shale.
 600- 05-Ctgs: Gray and greenish soft shale with **Fenestella Bryozoa**.
 Gray limestone.
 605- 10-Ctgs: Gray fossiliferous limestone.
 610- 15-Ctgs: Same and oolitic limestone. Gray shaly fossiliferous lime.
 615- 20-Ctgs: Gray limestone, part oolitic.
 620- 25-Ctgs: Gray limestone.
 625- 30-Ctgs: Same and green shale.
 630- 40-Ctgs: Gray oolitic limestone.
 640- 60-Ctgs: Light gray limestone, part oolitic.
 660- 700-Ctgs: Same.
 Small brachiopods noted.
 700- 35-Ctgs: Light gray limestone.
 735- 40-Ctgs: Same and brown dense limestone. Chert.
 740- 45-Ctgs: Gray and brownish dense limestone with chert.
 745- 65-Ctgs: Gray dense limestone.
 750- 55-Ctgs: Gray oolitic limestone.
 755- 75-Ctgs: Light gray limestone.
 775- 80-Ctgs: Gray finely granular limestone. Chert noted.
 780- 800-Ctgs: Light gray limestone, slightly oolitic.
 800- 10-Ctgs: Light gray and brownish limestone with white chert.

Prob. Tuscumbia

- 810- 20-Ctgs: Light gray and brownish limestone. Chert noted.

Summary

Pennington and Bangor	to.....	530-35'
Hartselle	at.....	530-35'
Gasper and St. Genevieve	540-45'.....to.....	800'
Prob. Tuscumbia	at.....	800'

MORGAN COUNTY

F. W. Rohwer
 Karl Hough well #1
 NE/4
 Sec. 2—T 6 S—R 1 W
 1069' S and 1112' W of NE Cor.
 near Lacey Spring,
 Morgan County, Alabama

Elev. 660' D. F.
 Began August 29, 1940
 Completed October 7, 1940

- | | |
|---------------|--|
| 36- 40-Ctgs: | Medium to coarse-grained sub-angular and etched sand; light brown coarsely crystalline limestone; yellowish very fine-gr. calcareous silty sandstone. Oolitic limestone. |
| 40- 45-Ctgs: | Greenish gray rather dense limestone. |
| 45- 50-Ctgs: | Same, and light brown oolitic limestone. |
| 50- 55-Ctgs: | Greenish limestone.
Crinoid stems. |
| 55- 60-Ctgs: | Greenish coarsely crystalline limestone, fossiliferous; light brown and white chert noted. |
| 60- 65-Ctgs: | Same. Oolitic limestone frag. Bluish tinged chert and light brown chert. |
| 65- 70-Ctgs: | Same.
Crinoid stems. |
| 70- 75-Ctgs: | Light greenish gray coarsely crystalline limestone; light gray oolitic limestone. Sand.
Crinoid stems.
Bryozoa.
Endothyra sp. |
| 75- 80-Ctgs: | Light gray and brown crystalline limestone, fossiliferous; light gray oolitic limestone.
Ostracods.
Crinoid stems.
Small gastropods.
Endothyra sp. |
| 80- 85-Ctgs: | Same.
Crinoid stems. |
| 85- 90-Ctgs: | Light brown and light gray crystalline limestone; sand.
Bryozoa.
Brachiopods. |
| 90- 95-Ctgs: | Light gray crystalline limestone, fossiliferous. |
| 95- 100-Ctgs: | Light brown oolitic limestone; light brown coarsely crystalline limestone. |
| 100- 05-Ctgs: | Medium brown coarsely crystalline limestone and light brown oolitic limestone, fossiliferous. |

- Crinoid frag.
 Endothyra sp.
- 105- 10-Ctgs: Medium brown crystalline and granular limestone, fossiliferous. Well preserved quartz crystals.
 Crinoid stems and plates.
- 110- 15-Ctgs: Brown crystalline limestone; **crinoid stems** abundant. Part of limestone having a very weathered appearance. Pentagonal and elliptical crinoid stem plates.
 Echinoid plates and spines, Fenestella Bryozoa.
- 115- 20-Ctgs: Same, and **echinoid plates** and spines. Sand.
 Elliptical plates of crinoid stems, and others.
- 120- 25-Ctgs: Same. Elliptical **crinoid stem plates**. **Crinoid plates**. Oolitic limestone.
 Other crinoid stems abundant.
- 125- 30-Ctgs: Same. **Echinoid spines** and elliptical and spiny **crinoid stems**. Light brown and white chert.
- 135- 40-Ctgs: Medium and light brownish gray oolitic limestone.
 Crinoid stems.
- 140- 45-Ctgs: Grayish brown crystalline and oolitic limestone.
- 145- 50-Ctgs: Gray and greenish gray crystalline limestone with slight brown stain. Slightly oolitic limestone.
- 150- 55-Ctgs: Same.
- 155- 60-Ctgs: Brown crystalline limestone; oolitic limestone. Smoky chert, green shale and granular limestone. Oolitic chert. Ostracods.
- 160- 65-Ctgs: Light brown coarsely crystalline fossiliferous limestone, dark green granular limestone frag.; oolitic limestone noted.
- 165- 70-Ctgs: Brown crystalline limestone.
 Shell frag.
- 170- 75-Ctgs: Same with brown stain; oolitic brown limestone noted.
 Crinoid stems.
 Ostracods.
 Small gastropods.
 Endothyra sp.
- 175- 80-Ctgs: Medium and dark brown coarsely crystalline limestone, fossiliferous. Oolitic limestone.
 Endothyra sp.
- 180- 85-Ctgs: Brown coarsely crystalline and oolitic limestone.
- 185- 90-Ctgs: Brown crystalline limestone, blue and milky chert.
- 190- 95-Ctgs: Light brown and gray crystalline limestone and milky chert.
- 195- 200-Ctgs: Same.
- 200- 05-Ctgs: Same. Oolitic limestone noted.
- 205- 10-Ctgs: Brown crystalline limestone.
- Tuscumbia**
- 210- 15-Ctgs: Brown crystalline limestone, fossiliferous.
- 215- 20-Ctgs: Gray crystalline limestone.

- 220- 25-Ctgs: Brown and light gray coarsely crystalline limestone.
 225- 30-Ctgs: Same.
 230- 35-Ctgs: Brown granular and crystalline limestone; bluish and smoky chert.
 235- 50-Ctgs: Same.
 250- 55-Ctgs: Light gray crystalline limestone. Chert noted.
 255- 60-Ctgs: Same and chert.
 260- 65-Ctgs: Blue, brown and milky chert and brown and gray crystalline limestone.
 265- 70-Ctgs: Same.
 270- 75-Ctgs: Same and white chert.
 275- 80-Ctgs: Same with brown sucrose limestone.
 280- 85-Ctgs: White chert and light brown limestone.
 285- 90-Ctgs: Same with increasing amount of white chert.
 290- 95-Ctgs: White chert and light brown limestone.
 295- 300-Ctgs: Same and white limestone.
 300- 05-Ctgs: Same with increasing amount of white limestone.
 305- 10-Ctgs: White limestone and chert.
 310- 20-Ctgs: Same.
 320- 25-Ctgs: Light brown and gray crystalline limestone; chert noted.
 330- 35-Ctgs: Light gray limestone and cherty limestone.
 335- 40-Ctgs: Light brownish gray limestone and cherty limestone.
 340- 45-Ctgs: Light gray crystalline limestone.
 345- 50-Ctgs: Buff-colored sucrose limestone, white and grayish chert and cherty limestone.
 350- 55-Ctgs: Bluish chert with small amount of brown granular limestone.
 355- 60-Ctgs: Same and white chert.
 360- 70-Ctgs: Same.
 370- 75-Ctgs: Dark gray and gray hard granular limestone. Milky chert.
 (water) notation on bag.

Fort Payne

- 375- 80-Ctgs: Same.
 380- 85-Ctgs: Same. Pyrite noted.
 385- 90-Ctgs: Same, and chert.
 390- 95-Ctgs: Same and gray cherty limestone.
 395- 405-Ctgs: Same.
 405- 10-Ctgs: Bluish gray chert and cherty limestone.
 410- 15-Ctgs: Greenish gray cherty limestone, chert and hard granular limestone.
 415- 20-Ctgs: Greenish gray chert, cherty limestone and greenish gray granular limestone.

Fort Payne

- 420- 25-Ctgs: Milky chert and light brown and gray cherty limestone. Vivid green shale, dark streaks in part. Green tinged limestone, pyrite inclusions.

Maury Shale

- 425- 30-Ctgs: Black shale. Pyrite with sand inclusions noted. Coarse sand grains as inclusions in shale.
Spores and *Lingula* sp.

Chattanooga Shale

- 430- 35-Ctgs: Dense black shale. Pyrite inclusions. Occasional sand grains. Frag. of light gray limestone.
Spores noted.
- 435- 40-Ctgs: Black shale, sand, coarse well rounded grains; pyrite; frag. of gray non-calcareous shale. Light gray limestone frag.
- 440- 45-Ctgs: Gray shaly limestone with pyrite inclusions, fossiliferous. Light gray crystalline limestone.
Shell frag.

Silurian

- 445- 50-Ctgs: Greenish gray sandy limestone and shaly limestone with pyrite.
Coral frag.
- 450- 55-Ctgs: Same and light gray limestone.
- 455- 60-Ctgs: Greenish sandy shaly lime.
- 460- 65-Ctgs: Greenish sandy limestone. Rounded sand grains. Light gray coarsely crystalline limestone, very fossiliferous, with pyrite.
Coral frag.
- 465- 70-Ctgs: Same, with **Bryozoa frag.**
- 470- 75-Ctgs: Same and limestone with small black inclusions, phosphatic ?
- 475- 80-Ctgs: Same and dark brown crystalline limestone.
- 480- 85-Ctgs: Green limestone and shaly lime, with pyrite; light gray limestone.

Silurian

- 485- 90-Ctgs: Same.
- 490- 95-Ctgs: Same.
Coral frag.
- 495- 500-Ctgs: Same.
- 500- 05-Ctgs: Light gray crystalline limestone, green and reddish granular limestone.
- 505- 10-Ctgs: Light gray crystalline limestone, green and reddish granular limestone.
- 510- 15-Ctgs: Light and medium green crystalline and granular limestone, dark red limestone.
- 515- 20-Ctgs: Green lime and dark red shale.
- 520- 25-Ctgs: Same as preceding.
- 525- 30-Ctgs: Same and shaly lime.
- 530- 35-Ctgs: Gray and black crystalline limestone and shaly lime.
Coral frag. abundant.

Ordovician

- 535- 40-Ctgs: Same with small black inclusions noted.
- 540- 50-Ctgs: Same with occasional black inclusions, phosphatic ?

Summary

Gaspar and St. Genevieve	to.....	205'
Tuscumbia and Fort Payne	205'	to.....420'
Maury Shale	420-25'	
Chattanooga	425'	to.....445'
Silurian	445'	to.....530'
Ordovician	530'	to.....550' T.D.

Bob Burch
 Rowe #1
 SW corner of SW/4 of SE/4
 Sec. 1—T 8 S—R 4 W
 Morgan County, Ala.

Elev. 600'
 Began May 28, 1943
 Completed July, 1945

120-Ctgs: Fine-gr. sand.

Hartselle

- 120- 30-Ctgs: Medium-gr. sand and sandstone.
 130- 40-Ctgs: Same.
 140- 50-Ctgs: Medium to fine-gr. sand and sandstone.
 150- 60-Ctgs: Same.
 160- 70-Ctgs: Gray limestone and sandy limestone. **Fenestella Bryozoa.**
 Medium-gr. sand and sandstone.
 Brachiopod frag.
 (Golconda ?)
 170- 80-Ctgs: Medium to fine-gr. very hard sandstone. (Cypress?)
 180- 90-Ctgs: Gray limestone with **crinoid stems.**
 Brachiopod frag.
 Ostracods.
 Bryozoa.

Gaspar

- 190- 200-Ctgs: Dark gray shale and limestone with an **abundance of crinoid stems.**
 200- 10-Ctgs: Brown crystalline limestone with **crinoid stems** and black inclusions and dark gray soft shale.
 Crinoid stems.
 Bryozoa.
 Endothyra sp.
 210- 20-Ctgs: Light gray limestone and greenish gray soft shale.
 Bryozoa.
 220- 30-Ctgs: Dark gray soft shale.
 Ostracods.
 Small gastropods.

- 230- 40-Ctgs: Hard brown limestone with **crinoid stems**, and dark gray limestone.
240- 50-Ctgs: Same with **crinoid stems**. Pyrite. **Small pelecypods. Ostracods**. Gray soft shale.
250- 60-Ctgs: Same.
260- 70-Ctgs: Medium gray limestone and green shale.
270- 80-Ctgs: Same. **Crinoid stems** and oolites.
280- 90-Ctgs: Light gray oolitic limestone.
290- 300-Ctgs: Light gray crystalline limestone. Green shale frag.

St. Genevieve

- 300- 10-Ctgs: Same.
310- 20-Ctgs: Light gray limestone with white and bluish chert.
320- 30-Ctgs: Light gray limestone with fine green inclusions, fossiliferous, and green shale frag.
330- 40-Ctgs: Light gray limestone with blue and white chert.
340- 50-Ctgs: Light gray limestone.

Tuscumbia

- 350- 60-Ctgs: Same.
360- 70-Ctgs: Light gray limestone. **Crinoid stems** noted. Blue chert.
370- 80-Ctgs: Light brown limestone and bluish chert.
Endothyra sp.
380- 90-Ctgs: Light gray limestone and chert.
390- 400-Ctgs: Light gray crystalline limestone.
400- 10-Ctgs: Light brown crystalline limestone.
410- 60-Ctgs: Same.
460- 70-Ctgs: Light brown limestone.
470- 500-Ctgs: Same.
500- 10-Ctgs: Light brown granular limestone and brown chert.

Fort Payne

- 510- 20-Ctgs: Brown lime and chert.
512- 20-Ctgs: Brown limestone.
520- 30-Ctgs: Light brown limestone and chert.
530- 40-Ctgs: Light gray crystalline limestone.
540- 50-Ctgs: Light gray finely granular limestone, white chert.
550- 60-Ctgs: Brown limestone and chert.
560- 70-Ctgs: Light gray limestone and bluish white chert.
570- 80-Ctgs: Light gray granular limestone and chert.
580- 90-Ctgs: Light gray limestone and bluish chert.
590- 600-Ctgs: Same with more blue chert.
600- 10-Ctgs: Same.
610- 20-Ctgs: Light gray crystalline limestone.
620- 30-Ctgs: Light gray granular limestone and bluish chert.
630- 40-Ctgs: Same.
640- 50-Ctgs: Bluish chert and light gray limestone.
650- 700-Ctgs: Same.
700- 10-Ctgs: Light gray limestone.
710- 20-Ctgs: Light gray limestone and chert.

- 720- 30-Ctgs: Same and bluish chert.
 730- 40-Ctgs: Light gray limestone and bluish chert.
 740- 50-Ctgs: Dark green shale with pyrite.

Maury Shale

- 750- 60-Ctgs: Black shale and pyrite and very hard sandstone.

Chattanooga Shale

- 760- 70-Ctgs: Light gray coarsely crystalline limestone with greenish spots noted; gray and greenish gray shaly lime.
 Crinoid stems and brachiopods noted.

Silurian

- 770- 80-Ctgs: Same.
 780- 90-Ctgs: Light greenish gray coarsely crystalline limestone; green shale.
 Crinoid stems.
 790-Ctgs: Yellowish and light gray coarsely crystalline limestone, fossiliferous, gray and greenish lime with black inclusions.
 800-Ctgs: Yellowish and light gray coarsely crystalline limestone, fossiliferous, and dark gray sandy frag.
 800- 10-Ctgs: Dark gray phosphatic limestone.

Ordovician

- 810- 20-Ctgs: Light gray crystalline limestone with black phosphatic inclusions, shaly lime with phosphatic inclusions.
 Casts and small gastropods.
 820- 30-Ctgs: Pink and gray crystalline limestone, gray and green shaly lime; gray limestone with scattered small dark inclusions.
 830- 40-Ctgs: Dark gray shaly and crystalline limestone. Pyrite inclusions noted.
 840- 50-Ctgs: Same and gray limestone with small black phosphatic inclusions.
 850- 60-Ctgs: Same.
 860- 70-Ctgs: Same, slightly fossiliferous.
 870- 80-Ctgs: Gray fossiliferous crystalline limestone, dark gray granular and shaly lime with phosphatic inclusions.
 880- 90-Ctgs: Gray shaly limestone and light gray crystalline limestone with black phosphatic inclusions, fossiliferous.
 890- 900-Ctgs: Light and dark gray limestone.
 900- 10-Ctgs: Same with inclusions of pyrite.
 910- 20-Ctgs: Light gray crystalline limestone with scattered black inclusions, slightly fossiliferous.
 920- 30-Ctgs: Light gray crystalline limestone and dark gray granular limestone with black phosphatic inclusions.
 930- 40-Ctgs: Same.
 940- 45-Ctgs: Gray to black limestone and shaly lime with black phosphatic inclusions, fossiliferous. Pyrite.
 945-Ctgs: Light gray crystalline limestone with black phosphatic inclusions, black granular and shaly lime with phosphatic inclusions.

- 960-Ctgs: Same, fossiliferous.
965-Ctgs: Light gray crystalline limestone with black phosphatic inclusions, gray to black shaly lime.
975-Ctgs: Light gray crystalline limestone with black phosphatic inclusions, slightly fossiliferous, and black shale with phosphatic inclusions.
980-Ctgs: Same.
983-Ctgs: Light gray crystalline limestone with small black inclusions, fossiliferous, black finely granular limestone and shale.
990- 92-Ctgs: Same.
1000-Ctgs: Gray to black fine-gr. sandy crystalline and shaly lime with black inclusions. Pyrite inclusions.
1002- 08-Ctgs: Same with very fine sand.
1008-Ctgs: Light gray crystalline limestone, black phosphatic lime and shale.
1015-Ctgs: Buff-colored crystalline limestone.
- Ordovician—prob. Black River**
- 1021-Ctgs: Same with frag. of light gray brittle shale with mica flakes.
1029-Ctgs: Same with brown crystalline limestone frag.
1035-Ctgs: Drab-colored dense limestone, frag. of gray mic. shale.
1040-Ctgs: Drab-colored dense limestone.
1049-Ctgs: Gray dense limestone.
1055-Ctgs: Gray dense limestone.
1061-Ctgs: Same.
1066-Ctgs: Same with dark gray granular limestone.
1070-Ctgs: Medium gray granular limestone.
1080-Ctgs: Dark gray and brownish granular limestone, light gray limestone noted.
1094-Ctgs: Medium gray crystalline limestone and shaly lime, greenish shale with mica.
1104-Ctgs: Light gray crystalline and medium gray granular limestone with small black inclusions, slightly fossiliferous.
1110-Ctgs: Gray granular limestone.
1120-Ctgs: Gray granular limestone and light gray crystalline limestone.
1130-Ctgs: Gray granular limestone.
1146-Ctgs: Brown dense limestone, part slightly granular.
1160-Ctgs: Grayish brown dense and granular limestone.
Large ostracods noted.
1170- 80-Ctgs: Same.
1196-Ctgs: Brown dense and granular limestone. Brown chert noted.
1203-Ctgs: Light brown limestone, part slightly granular; slight brown stain.
1213-Ctgs: Same.
1226-Ctgs: Light brown granular limestone.
1239-Ctgs: Same.

- 1245-Ctgs: Brown granular limestone.
1265-Ctgs: Same.
1280-Ctgs: Gray dense and granular limestone.
1295-Ctgs: Same and brown granular limestone.
1306-Ctgs: Brown and black granular limestone.
1320-Ctgs: Light brown crystalline and granular limestone.
1327- 33-Ctgs: Light gray finely granular to dense limestone with pyrite inclusions.

1335-Ctgs: Brown and gray dense limestone, fossiliferous.
Brachiopod frag. noted.
1338-Ctgs: Brown chert and limestone, part granular.
1350-Ctgs: Brown and gray dense and granular limestone, and brown chert.

1355-Ctgs: Gray dense limestone to black chert and brown limestone.
1365-Ctgs: Brown dense and granular limestone, gray dense limestone.
1370-Ctgs: Brown granular limestone.
1375-Ctgs: Same.
1390-Ctgs: Brownish gray dense limestone.
1393-Ctgs: Gray and brown dense limestone, crystalline calcite noted.
Brown granular limestone.

1400-Ctgs: Same.
Ostracods noted.

1410-Ctgs: Brown dense and slightly granular limestone.
1415-Ctgs: Greenish gray dense and finely granular limestone.
1415-Ctgs: Grayish brown dense limestone.
1420-Ctgs: Brown dense limestone.
1425-Ctgs: Grayish brown dense and granular limestone.
1433-1505-Ctgs: Same.
1524-Ctgs: Grayish brown dense and granular limestone.
1535-Ctgs: Same.
1544-Ctgs: Greenish gray finely granular limestone.
1554-Ctgs: Same and dense limestone.
1564-Ctgs: Same.
1570-Ctgs: Very light greenish gray dense and finely granular limestone.

1580- 85-Ctgs: Gray dense limestone.
1590-Ctgs: Light gray finely granular limestone.
1596-Ctgs: Light and dark brown finely granular limestone.
1610-Ctgs: Light gray granular limestone.
1644-Ctgs: Greenish gray dense limestone.
1649-Ctgs: Same and gray granular limestone.
1655-Ctgs: Greenish gray dense and granular limestone.
1699-Ctgs: Gray and brown granular and dense limestone.
Ostracods.

1680-Ctgs: Same.
1681-Ctgs: Note on bag: "corrected by S L M 8/21/44/ Scaled back from 1725 to 1681 ft. Gray dolomite and dark gray shale frag.

- 1691-Ctgs: Note on bag: "Scaled back by S L M corrected from 1735' to 1691'."
Same as preceding and bluish dolomite.
- 1696-Ctgs: Note on bag: "1740' corrected depth by S L M 8/21/44 Scaled back to 1696'.
Same as preceding and drab-colored dense limestone.
- 1697-Ctgs: Note on bag: "1740' corrected by S L M 8/21/44 to 1697 ft."
Same.
- 1696-1700-Ctgs: Same.
- 1700-Ctgs: Note on bag: "This sample scaled log 1700' by correcting log S L M run 8/21/44."
Bluish gray dolomite and dark bluish gray shale.
- 1703-Ctgs: Note on bag: "1748 ft. scaled back by correcting log by S L M 8/21/44 to 1703 ft."
Same as preceding.
- 1707-Ctgs: Note on bag: "Corrected depth from 1752' back to 1707 ft."
Bluish gray and brown dolomite.
- 1708-Ctgs: Drab-colored dolomite and dense limestone.
- 1710-Ctgs: Note on bag: "Corrected depth."
Bluish gray dolomite.
- 1711-Ctgs: Note on bag: "Corrected depth. Shows gas."
Same as preceding.
- 1712-Ctgs: Note on bag: "Gas and oil shows."
Bluish gray dolomite, dark bluish gray shale, crystalline calcite.
- 1715-Ctgs: Gray and bluish gray dolomite.
- 1716-Ctgs: Gray dolomite.
- 1718-Ctgs: Bluish gray dolomite, dark bluish gray shale.
- 1720-Ctgs: Note on bag: "Gas show."
Bluish gray dolomite and dark bluish gray shale.
- 1724-Ctgs: Bluish gray granular limestone and grayish brown dense limestone.
- 1727-Ctgs: Bluish gray dolomite.
- 1734-Ctgs: Bluish gray dolomite and dark bluish gray shale.
- 1739- 44-Ctgs: Same.
- 1748-Ctgs: Gray hard dolomite.
- 1752-Ctgs: Same.
- 1755-Ctgs: Gray coarsely crystalline dolomite.
- 1758-Ctgs: Note on bag: "Very hard from 1755' to 1758'.
Same as preceding.
- 1760-Ctgs: Note on bag: "Shows slight saturation."
Light brown dolomite.
- 1763-Ctgs: Light brown lime and milky chert.
- 1765-Ctgs: Same and dolomite. Green shale noted.
- 1767-Ctgs: Note on bag: "Show of gas."
Light brown dolomite.
- 1768-Ctgs: Same.
- 1769-Ctgs: Same.

- 1770-Ctgs: Grayish brown lime and dolomite.
Note on bag: "Shows slight residue of light green oil by acid test."
- 1773-Ctgs: Light brown dolomite.
Note on bag: "Shows fair saturation under acid test."
- 1777-Ctgs: Same as preceding. Note on bag: "Show of oil by acid test."
- 1780-Ctgs: Same.
- 1781-Ctgs: Light brown dolomite.
- 1783-Ctgs: Light brown dolomite. Shale from above.
- 1785-Ctgs: Light brown and gray dolomite.
- 1787-Ctgs: Same.
- 1789-Ctgs: Same with rounded frosted quartz grains noted. Green shale frag. noted.

Prob. Knox

- 1797-Ctgs: Light gray limestone and gray dolomite with rounded frosted quartz grains.
- 1799-Ctgs: Same.
- 1801-Ctgs: Same.
- 1803-Ctgs: Gray dolomite.
- 1808-Ctgs: Gray and brown dolomite.
- 1819-Ctgs: Same and green shale frag.
- 1827-Ctgs: Same.

Summary

Hartselle sandstone	120'	to.....	160'
Golconda and Cypress ?			160-180'
Gaspar	180'	to.....	290'
St. Genevieve	290'	to.....	340'
Tuscumbia & Fort Payne	340'	to.....	740'
Maury Shale	740'	to.....	750'
Chattanooga	750'	to.....	760'
Silurian	760'	to.....	800'
Ordovician		at.....	800'
Prob. Knox		at.....	1789'

D. I. McNabb and C. P. Mayhall

Bramlett #1

NW/4 of NE/4

Sec. 7—T 8 S—R 4 W

Morgan County, Ala.

Elev. 614 feet.

Began November 18, 1946

Comp. April 2, 1947

7½-12½-Ctgs: Light gray crystalline and oolitic limestone, crinoid stems, red ironstone concretions.

Bangor

12½-17½-Ctgs: Same.

17½-23½-Ctgs: Same with **Fenestella Bryozoa**.

23½- 30-Ctgs: Gray oolitic limestone.
Crinoid stems.

30- 35-Ctgs: Same.

35- 40-Ctgs: Same and crystalline limestone.
Small gastropods.

40- 45-Ctgs: Gray oolitic limestone.

45- 50-Ctgs: Same and crystalline limestone.

50- 55-Ctgs: Gray crystalline limestone with **crinoid stems**.

55- 60-Ctgs: Same.

60- 65-Ctgs: Same and brownish gray granular limestone.
Crinoid stems.

Archimedes frag.

Other Bryozoa.

65- 70-Ctgs: Brownish gray granular limestone.

70- 75-Ctgs: Same.
Crinoid stems.

75- 80-Ctgs: Gray oolitic limestone.

80- 85-Ctgs: Same with black shale frag.

85- 90-Ctgs: Gray oolitic limestone and black shale.

90- 95-Ctgs: Same and crystalline limestone.

95- 105-Ctgs: Same.

105- 10-Ctgs: Dark brownish gray fairly dense limestone.

110- 15-Ctgs: Same and lighter gray limestone.

115- 19-Ctgs: Same.

119- 25-Ctgs: Light greenish gray fairly dense limestone.

125- 30-Ctgs: Same and oolitic limestone.

130- 35-Ctgs: Gray granular and crystalline limestone with **crinoid stems**.

Bryozoa.

135- 40-Ctgs: Brown and gray limestone.

Bryozoa frag. noted.

145- 50-Ctgs: Same.

150- 55-Ctgs: Same, slightly chert.

Crinoid stems.

- 156- 60-Ctgs: Gray granular and crystalline limestone, fossiliferous.
 160- 65-Ctgs: Same.
 Bryozoa noted.
 165- 70-Ctgs: Gray and brownish gray crystalline limestone.
 170- 75-Ctgs: Light gray fine-gr. sandstone, asphaltic ?

Hartselle

- 175- 80-Ctgs: Same with pyrite.
 180- 85-Ctgs: Sand and gray shale.
 185- 89-Ctgs: Greenish gray med.-gr. sandstone; gray and black shale and pyrite.
 189- 90-Ctgs: Fine-gr. sand and pyrite.
 191- 99-Ctgs: Medium-grained sand with oil ? stain.
 199- 210-Ctgs: Med.-gr. sand with oil ? stain and asphaltic material.
 210- 20-Ctgs: Same as preceding.
 220- 25-Ctgs: Same as preceding but somewhat coarser sand.
 225- 30-Ctgs: Med.-gr. sand.
 230- 35-Ctgs: Same and somewhat coarser sand and light gray hard fine-gr. sandstone.
 235- 40-Ctgs: Light gray med. to coarse-gr. sand and hard fine-gr. sandstone.
 240- 45-Ctgs: Light gray hard fine-gr. closely cemented sandstone, non-calcareous.
 245- 50-Ctgs: Light gray med.-gr. sand.
 250- 55-Ctgs: Same and sandy shale.
 255- 65-Ctgs: Light gray hard fine-gr. sandstone.
 265- 70-Ctgs: Light gray hard fine-gr. sandstone and sandy shale.
 275- 81-Ctgs: Gray med.-gr. sandstone and fine-gr. slightly calcareous sandstone, pyrite and light gray limestone.
 281- 87-Ctgs: Same, sandstone frag. with asphaltic stain.
 287- 93-Ctgs: Dark gray to black shale and crystalline limestone.
 Bryozoa.
 Small gastropods.
 Abundant crinoid stems.
 Fenestella Bryozoa.
 Ostracods.

Gasper

- 293- 97-Ctgs: Dark brownish gray crystalline limestone. **Crinoid stems** and dark gray shale.
 Ostracods.
 298- 303-Ctgs: Grayish brown limestone and shale.
 303- 08-Ctgs: Brown coarsely crystalline limestone and dark gray shale.
 Crinoid stems.
 308- 13-Ctgs: Brown oolitic limestone and crystalline limestone.
 313- 20-Ctgs: Brown limestone and light gray limestone.
 320- 25-Ctgs: Dark gray to black dense shale, limestone frag.
 Ostracods.
 325- 30-Ctgs: Gray to black shale with abundant **Ostracods**. Brown lime frag.
 Shell frag.

- 330- 35-Ctgs: Same.
335- 40-Ctgs: Dark gray shale, slightly fossiliferous.
340- 45-Ctgs: Same.
345- 50-Ctgs: Same with pyrite.
Small pelecypods.
350- 55-Ctgs: Same with brown crystalline lime and **Bryozoa, Ostracods, Pyrite.**
355- 60-Ctgs: Same with an increasing amount of brown lime.
Bryozoa.
Fenestella Bryozoa noted.
360- 65-Ctgs: Same with abundant fossils, including **Brachiopods, crinoid stems, small gastropods, pyrite.**
363- 68-Ctgs: Light gray oolitic and crystalline limestone.

Gasper or St. Genevieve

- 368- 75-Ctgs: Light gray crystalline and oolitic limestone.
375- 80-Ctgs: Light grayish brown crystalline limestone, slightly stained brown. Pyrite; **crinoid stems.**
380- 85-Ctgs: Light gray crystalline limestone.
385- 90-Ctgs: Same and medium gray limestone.
391- 97-Ctgs: Same with slight brown stain.
397- 402-Ctgs: Light gray oolitic and crystalline limestone.

St. Genevieve ?

- 402- 08-Ctgs: Light gray oolitic limestone.
408- 14-Ctgs: Light gray crystalline limestone.
414- 23-Ctgs: Same and oolitic limestone with slight brown stain.
Bryozoa.
423- 24-Ctgs: Light gray limestone.
424- 25-Ctgs: Same with chert.

Prob. Tusculumbia

- 425- 30-Ctgs: Light gray and brownish limestone with white chert.
430- 33-Ctgs: Light brown dense limestone and bluish chert.
433- 39-Ctgs: Same with light gray limestone.
439- 43-Ctgs: Light gray limestone, white and bluish chert noted.
443- 55-Ctgs: Same.
455- 60-Ctgs: Light gray cherty limestone with slight brown stain.
460- 67-Ctgs: Light brownish gray crystalline limestone.
467- 73-Ctgs: Same with white chert.
473- 78-Ctgs: Same.
478- 85-Ctgs: Same with bluish chert.
485- 90-Ctgs: Light gray crystalline limestone.
Crinoid stems noted.
491- 95-Ctgs: Light gray cherty lime.
495- 500-Ctgs: Light brownish gray limestone.
500- 10-Ctgs: Same.
510- 16-Ctgs: Same. Chert noted.
516- 24-Ctgs: Same.
524- 27-Ctgs: Same with cherty limestone and white chert.
527- 32-Ctgs: Light brownish gray crystalline limestone. Chert.

- 532- 38-Ctgs: Light brown limestone.
Crinoid stems.
- 538- 44-Ctgs: Same.
- 544- 51-Ctgs: Light brownish gray limestone.
- 551- 56-Ctgs: Same.
- 556- 61-Ctgs: Light brown limestone.
Crinoid stems.
Endothyra sp.
- 561- 66-Ctgs: Same.
Crinoid stems.
- 566- 71-Ctgs: Light brownish gray limestone.
- 571- 80-Ctgs: Same.
- 580- 85-Ctgs: Light grayish brown crystalline limestone.
- 585- 90-Ctgs: Same.
- 590- 96-Ctgs: Same.
- 596- 602-Ctgs: Same somewhat cherty.
- 602- 08-Ctgs: Same.
- 608- 14-Ctgs: Light grayish brown limestone with chert.
- 614- 21-Ctgs: Light grayish brown crystalline limestone.
- 620- 35-Ctgs: Same.
- 635- 40-Ctgs: Grayish brown cherty limestone.

Prob. Fort Payne

- 640- 45-Ctgs: Light grayish brown cherty limestone.
- 645- 50-Ctgs: Light grayish brown very cherty limestone.
- 650- 55-Ctgs: Same with brown and blue chert.
- 655- 60-Ctgs: Light gray slightly granular limestone and bluish white chert.
- 660- 65-Ctgs: Light bluish gray limestone and bluish chert.
- 665- 70-Ctgs: Same.
- 670- 76-Ctgs: Light gray and bluish gray limestone and chert.
- 680- 85-Ctgs: Same.
- 685- 90-Ctgs: Light gray crystalline limestone and chert.
- 690- 95-Ctgs: Same, and bluish chert.
- 695- 98-Ctgs: Same.
- 698- 703-Ctgs: Bluish chert and light gray and brownish gray limestone.
- 703- 05-Ctgs: Same.
- 705- 10-Ctgs: Light gray and bluish chert and light brownish cherty lime.
- 710- 13-Ctgs: Same.
- 713- 14-Ctgs: Same with more brown cherty limestone.
- 714- 16-Ctgs: Gray and bluish chert and limestone black shale from above.
- 716- 18-Ctgs: Same.
- 718- 20-Ctgs: Same with limestone slightly granular.
- 720- 22-Ctgs: Same.
Bryozoa frag. noted.
- 722- 27-Ctgs: Same.
- 727- 30-Ctgs: Brown and bluish chert and limestone.
- 730- 42-Ctgs: Same.

- 742- 45-Ctgs: Same and light gray and bluish chert.
745- 49-Ctgs: Brown and bluish chert and limestone.
749- 53-Ctgs: Same with more limestone slightly granular.
753- 57-Ctgs: Same.
757- 61-Ctgs: Brown chert and cherty limestone, gray shale.
761- 63-Ctgs: Same.
763- 67-Ctgs: Same with bluish chert.
767- 70-Ctgs: Bluish and brown chert and limestone. Gray shale noted.
770- 75-Ctgs: Brown chert and cherty lime.
775- 78-Ctgs: Brown chert and small portion of brown limestone.
778- 81-Ctgs: Same.
781- 94-Ctgs: Same with brown granular limestone.
784- 88-Ctgs: Brown and gray granular limestone and cherty limestone and brown and bluish chert.
788- 94-Ctgs: Bluish cherty limestone and chert.
794- 800-Ctgs: Bluish cherty limestone.
800- 04-Ctgs: Bluish gray limestone with fine green inclusions, glauconite ?, and chert.
804- 12-Ctgs: Same.
812- 16-Ctgs: Bluish cherty limestone.
816- 22-Ctgs: Light bluish cherty limestone.
822- 27-Ctgs: Bluish chert and light gray limestone.
827- 32-Ctgs: Brownish black shale with spores; greenish shale with phosphatic material. Green and pinkish tinged limestone.

Chattanooga

- 828- 30-Ctgs: Brownish black shale and sandy shale with pyrite, frag. of bluish gray chert and lime.
832- 39-Ctgs: Dense brownish black shale with pyrite and sandy shale. Phosphatic material noted. **Spores** in black shale. Light gray limestone and chert frag.
839- 46-Ctgs: Brownish black shale, pyrite, occasional rounded sand grains, green shale and lime and brownish limestone.

Part Silurian

- 846- 55-Ctgs: Green and dark red shale, yellowish and greenish crystalline limestone. Chert noted.
855- 63-Ctgs: Light brownish gray crystalline limestone and greenish lime and shale frag. noted.
Crinoid stems.
863- 68-Ctgs: Same. Cherty lime and pyrite noted. Greenish gray soft shale.
878- 88-Ctgs: Same.
888- 96-Ctgs: Yellow, pink and light gray crystalline limestone, gray and greenish gray shale noted. Pyrite, dark gray shale frag. with glau. ? inc.
896- 905-Ctgs: Same, with limestone slightly sandy and with more of gray and greenish shale and shaly lime. Pyrite.
905- 11-Ctgs: Yellowish and pinkish limestone and dark gray phosphatic limestone, fossiliferous.

Ordovician—Trenton

- 911- 18-Ctgs: Dark gray phosphatic limestone and shaly lime.
 918- 25-Ctgs: Same and greenish gray lime.
 925- 33-Ctgs: Gray phosphatic limestone, slightly granular.
- Trenton**
- 932- 38-Ctgs: Medium to dark gray lime and limy shale with black inclusions.
 938- 50-Ctgs: Same.
 950- 55-Ctgs: Same, fossiliferous.
 955- 67-Ctgs: Same.
 967- 75-Ctgs: Same and light gray crystalline limestone.
 975-1000-Ctgs: Same.
 1000- 05-Ctgs: Same with brownish gray lime somewhat cherty.
 1005- 14-Ctgs: Same.
 1014- 21-Ctgs: Gray limestone with an increasing amount of black phosphatic inclusions.
 1021- 25-Ctgs: Same, fossiliferous.
 1026- 38-Ctgs: Same.
 1038- 47-Ctgs: Same with crystalline calcite.
 1047- 55-Ctgs: Same with finely granular limestone.
 1055- 65-Ctgs: Light gray crystalline limestone and dark gray granular limestone with black phosphatic inclusions and casts of small **gastropods**.
 1065- 72-Ctgs: Same, fossiliferous.
 1072- 80-Ctgs: Same with increasing amount of light gray crystalline limestone with black phosphatic inclusions.
 1080- 88-Ctgs: Light gray crystalline limestone, fossiliferous with some black phosphatic inclusions.
 1088- 94-Ctgs: Light gray and brownish crystalline limestone, fossiliferous, black phosphatic inclusions noted.
 1094-1102-Ctgs: Same with finely granular limestone noted.
 1102- 10-Ctgs: Light gray limestone with black phosphatic inclusions; phosphatic casts of small **gastropods** noted.
 1110- 20-Ctgs: Same and dark brownish gray crystalline limestone and shaly lime.
 1120- 25-Ctgs: Dark brownish gray crystalline limestone, fossiliferous, and brownish black shale. Light gray limestone.
 1125- 32-Ctgs: Dark brown fossiliferous limestone. Brachiopod frag. and black shaly lime.
 1132- 38-Ctgs: Light gray crystalline fossiliferous limestone and dark gray granular limestone.
 1138- 47-Ctgs: Gray limestone with phosphatic inclusions, fossiliferous, and gray to black gran. limestone.
 1147- 55-Ctgs: Light and dark gray granular limestone with small phosphatic inclusions.
 1155- 61-Ctgs: Light gray slightly crystalline limestone.
 1161- 75-Ctgs: Same.
 1175- 81-Ctgs: Same slightly brownish and with dense limestone.
 1181- 88-Ctgs: Same.
 1188- 95-Ctgs: Light gray slightly crystalline limestone.

- 1195-1201-Ctgs: Same.
1201- 08-Ctgs: Gray and brownish gray granular and crystalline limestone with small rounded dark calcareous concretions.
1208- 15-Ctgs: Same.
1215- 25-Ctgs: Gray granular limestone.
1220- 25-Ctgs: Medium gray finely granular limestone.
1225- 30-Ctgs: Same.
1236- 42-Ctgs: Same with darker gray lime.
1242- 46-Ctgs: Same.
1246- 53-Ctgs: Same with dense and cherty lime.
1253- 59-Ctgs: Medium greenish gray dense and granular limestone.
1259- 63-Ctgs: Same with coarsely crystalline limestone.
1265- 72-Ctgs: Gray granular and crystalline fossiliferous limestone.
1272- 77-Ctgs: Gray granular and dense limestone.

Black River

- 1277- 82-Ctgs: Light brown granular and dense limestone.
1282- 95-Ctgs: Same.
1295-1302-Ctgs: Grayish brown granular and dense limestone.
1302- 08-Ctgs: Gray dense limestone.
1308- 15-Ctgs: Medium gray dense limestone. **Ostracods** noted and dark gray shaly lime.
1315- 20-Ctgs: Same with brown granular lime and black shale.
1320- 28-Ctgs: Medium gray dense limestone.
1328- 35-Ctgs: Same.
1335- 41-Ctgs: Brown dense and granular limestone and brown chert, and buff-colored limestone.
1342- 48-Ctgs: Brown granular limestone, buff-colored dense limestone.
1348- 53-Ctgs: Same.
1353- 58-Ctgs: Same. Chert noted.
1358- 65-Ctgs: Brown and buff-colored limestone with chert.
1365- 68-Ctgs: Same.
1368- 75-Ctgs: Same, part of limestone granular.
1375- 81-Ctgs: Light brown granular limestone.
1381-1412-Ctgs: Same.
1408- 12-Ctgs: Same and crystalline limestone.
1412- 18-Ctgs: Buff-colored light brown crystalline limestone.
1418- 25-Ctgs: Light brown and buff-colored crystalline limestone.
1425- 30-Ctgs: Same.
1430- 37-Ctgs: Light gray dense limestone, scattered fine pyrite.
1437- 48-Ctgs: Light gray dense and finely granular limestone.
1448- 55-Ctgs: Gray granular and dense limestone, fossiliferous.
1455- 62-Ctgs: Brownish gray crystalline and granular limestone.
1462- 70-Ctgs: Light brown crystalline limestone.
1470- 76-Ctgs: Gray crystalline and granular limestone.
1475- 85-Ctgs: Gray and brown dense limestone, fossiliferous, and granular limestone.
1486- 95-Ctgs: Same. Brown chert.
1495-1507-Ctgs: Same.
1507- 15-Ctgs: Brown granular and dense limestone.

- 1515- 20-Ctgs: Gray and brown granular limestone, gray dense limestone.
 1525- 35-Ctgs: Light gray dense limestone.
 1535- 45-Ctgs: Light gray dense limestone.
 1545- 52-Ctgs: Same and brown limestone.
 1552- 57-Ctgs: Brown dense limestone.
 1557- 60-Ctgs: Same.
 1560- 67-Ctgs: Same and light gray dense limestone.
 1567- 72-Ctgs: Same.
 1572- 75-Ctgs: Medium to dark gray and brownish gray dense limestone.
 1575- 81-Ctgs: Medium gray dense limestone.
 1581- 92-Ctgs: Same.
 1592-1600-Ctgs: Gray and brownish gray dense and shaly lime.
 Ostracods.
 1600- 10-Ctgs: Medium gray dense limestone.
 1610- 17-Ctgs: Same and dark gray to black shale noted.
 Ostracods.
 1617- 23-Ctgs: Medium gray and brownish gray dense limestone.
 Ostracods.
 1623- 30-Ctgs: Medium gray dense limestone. Black shale noted.
 1630- 36-Ctgs: Same.
 1636- 41-Ctgs: Same with brown dense limestone.
 1641- 46-Ctgs: Same and light greenish gray dense limestone.
 1646- 50-Ctgs: Greenish gray finely granular limestone.
 1650- 55-Ctgs: Light greenish gray finely granular limestone.
 1655- 65-Ctgs: Same.
 1665- 72-Ctgs: Same and dark brownish gray limestone.
 1672- 80-Ctgs: Greenish gray granular and dense limestone, dark gray to brown dense limestone.
 1680- 87-Ctgs: Greenish gray granular limestone and brownish gray dense limestone.
 1687- 93-Ctgs: Greenish gray very finely granular limestone.
 1693-1700-Ctgs: Brownish gray dense limestone.
 1700- 06-Ctgs: Light greenish gray dense limestone.
 1706- 11-Ctgs: Same and brown dense limestone.
 1711- 16-Ctgs: Light greenish gray dense limestone.
 1716- 20-Ctgs: Same with very finely granular limestone.
 1720- 27-Ctgs: Light greenish gray dense limestone.
 1727- 35-Ctgs: Light gray very finely granular and dense limestone.
 1735- 42-Ctgs: Gray very finely granular and dense limestone.
 1742- 47-Ctgs: Gray and greenish gray finely granular limestone and gray dense limestone.
 Ostracods noted.
 1747- 52-Ctgs: Same. **Ostracods noted.** Brown dense limestone.
 1752- 55-Ctgs: Light gray dolomite.
 Ostracods.
 1755- 60-Ctgs: Bluish gray dolomite.
 1760- 73-Ctgs: Brownish gray dense limestone and finely granular fossiliferous limestone.
 1780- 85-Ctgs: Light gray dolomite.

- 1785- 90-Ctgs: Light gray dolomite.
 1790-1810-Ctgs: Same.
 1810- 18-Ctgs: Light gray and brown dense limestone.
 1818- 20-Ctgs: Gray limestone and dolomite.
 1820- 25-Ctgs: Gray dolomite.
 1825- 28-Ctgs: Same.
 1828- 35-Ctgs: Light gray dense limestone and dolomite.
 1835- 45-Ctgs: Light gray dolomite.
 1845- 55-Ctgs: Same.
 1855- 62-Ctgs: Same with green brittle shale.
 1862- 70-Ctgs: Light gray dolomite and dark greenish gray shale.
 1870- 78-Ctgs: Same and greenish gray dolomite.
 1878- 87-Ctgs: Same and light grayish brown dense limestone.
 1887- 96-Ctgs: Light gray dolomite.
 1896-1903-Ctgs: Light greenish gray dolomite and dark green shale.
 1903- 14-Ctgs: Light greenish gray dolomite.
 1914- 24-Ctgs: Same with light grayish brown dense limestone and dark green shale. **Ostracods** noted in limestone.
 1924- 35-Ctgs: Light greenish gray dolomite with small amount of pyrite, dark green shale.
 1935- 45-Ctgs: Greenish gray dolomite and shaly dolomite.
 1945- 52-Ctgs: Light green dolomite and shaly dolomite and light gray dense lime.
 1952- 60-Ctgs: Light green dolomite with fine pyrite and vivid green shale, and shaly dolomite with pyrite; light gray dense limestone.
 1960- 67-Ctgs: Same. Occasional rounded frosted sand grains.
 1967- 75-Ctgs: Buff-colored dolomite and dense limestone.
 1972- 85-Ctgs: Buff-colored dense limestone and dolomite and white limestone and chert.

Prob. Knox

- 1985- 93-Ctgs: Same as preceding with more white lime and buff-colored dolomite.
 1993-2003-Ctgs: White limestone, buff-colored dolomite, dense buff-colored limestone.
 2000- 04-Ctgs: Light gray dolomite, cream-colored limestone, and frag. of green shale.
 2004- 09-Ctgs: Buff-colored dolomite and brown chert.
 2009- 12-Ctgs: Light gray dolomite.
 2012- 16-Ctgs: Buff-colored dolomite, brown chert.
 2016- 21-Ctgs: Light brown dolomite and dark greenish gray shale frag. from above.
 2021- 27-Ctgs: White to light gray limestone, buff-colored dolomite, dark greenish gray shale frag.
 2026- 30-Ctgs: White limestone, drab-colored dolomite, crystalline calcite, dark greenish gray shale frag. from above.
 2030- 39-Ctgs: Cream-colored to light gray limestone and dark greenish shale with pyrite, from above.
 2039- 50-Ctgs: Light gray dolomite.

2050-	56-Ctgs:	Light gray coarsely crystalline dolomite. Shale from above.
2056-	65-Ctgs:	Light greenish gray finely crystalline limestone.
2065-	70-Ctgs:	Same.
2070-	80-Ctgs:	Light gray dolomite.
2080-	85-Ctgs:	Same with white limestone.
2085-	99-Ctgs:	Same.

Summary

Bangor	7½'	to.....	170-75'
Hartselle Sandstone	170-75'	to.....	287'
Gasper & St. Genevieve	287'	to.....	425'
Tuscumbia & Fort Payne	425'	to.....	827'
Chattanooga Shale	827'	to.....	839-46'
Silurian	846'	to.....	905-11'
Ordovician	905-11'	to.....	1975'
Prob. Knox		at.....	1972-85'

Chloroform test shows "dead" oil at 170-75'

Chloroform test gives slight oil show at 180-85'

Heavy impregnation with asphalt at 191-99'

Heavy impregnation with asphalt at 210-20'

On January 10, 1946, Mr. McNabb reported a good show of gas at base of Fort Payne and top of Chattanooga

- 290- 300-Ctgs: Same.
 300- 10-Ctgs: Same with dark red hard clay and gray soft clay, with more siderite concretions.
 310- 20-Ctgs: Gray, purple and dark red clay, siderite concretions, medium to coarse sand and gravel, pyrite.
 330- 40-Ctgs: Coarse-grained variegated sand and gravel, oolitic pebbles noted; purple, dark red and pinkish clay; siderite concretions noted.

Gap in samples

- 350- 60-Ctgs: Gravel, part chert, coarse sand, siderite concretions, purple and red clay, pyritized wood.
 360- 70-Ctgs: Same.
 370- 80-Ctgs: Coarse sand and variegated chert gravel.
 390- 400-Ctgs: Same.
 400- 10-Ctgs: Same with more chert gravel.
 410- 20-Ctgs: Same. Oolitic chert noted.
 420- 60-Ctgs: Same.
 460- 70-Ctgs: Same with siderite concretions.
 470- 80-Ctgs: Very coarse variegated gravel, siderite concretions, dark red and gray clay.
 480- 90-Ctgs: Same with gray and purple clay.
 500- 10-Ctgs: Very coarse variegated gravel, gray and purple clay and sand.
 510- 15-Ctgs: Very coarse gravel and sand.
 520- 40-Ctgs: Same.
 540- 50-Ctgs: Very large variegated gravel and sand.
 550- 70-Ctgs: Same.
 570- 80-Ctgs: Very coarse variegated gravel and sand.
 580- 600-Ctgs: Same.
 600- 30-Ctgs: Fine-grained and coarse sand and dark red hard clay.
 630- 40-Ctgs: Purple and gray clay, sand and gravel.
 640- 50-Ctgs: Very coarse gravel and sand and purple clay.
 650- 60-Ctgs: Same and hard green clay.
 660- 700-Ctgs: Same.
 700- 10-Ctgs: Reddish brown clay, coarse sand and mottled gray and red clay.
 710- 20-Ctgs: Medium to coarse sand, gravel from above ?
 720- 30-Ctgs: Same with siderite concretions.
 730- 40-Ctgs: Same with siderite concretions and mica.
 740- 50-Ctgs: Very coarse variegated chert gravel and sand.
 750- 60-Ctgs: Coarser gravel, conglomerate frag. and oolitic pebbles.
 760- 70-Ctgs: Very coarse variegated chert gravel and sand.
 780- 90-Ctgs: Chert gravel, medium to coarse sand, siderite concretions, carbonaceous material.
 790- 800-Ctgs: Very coarse gravel, coarse sand.
 800- 10-Ctgs: Same. Siderite concretions and carbonaceous material.
 810- 20-Ctgs: Same and carbonaceous material. Oolitic chert pebbles noted.
 820- 30-Ctgs: Coarse chert gravel and coarse-grained sub-angular sand.

- 830- 80-Ctgs: Same.
880- 90-Ctgs: Chert gravel and coarse sand with occasional quartz grains, siderite concretions.
890- 920-Ctgs: Same.
920- 30-Ctgs: Chert gravel and coarse sand.
930- 50-Ctgs: Same.
Prob. Top of Pennsylvanian
950- 70-Ctgs: Same.
970- 80-Ctgs: Same with dark gray mic. shale and fine-grained sandy shale.
980- 90-Ctgs: Same.
990-1000-Ctgs: Dark gray hard mic. sandy shale.
1000- 10-Ctgs: Dark gray hard sandy shale with mica.
1010- 20-Ctgs: Same.
1020- 30-Ctgs: Dark gray mic. carb. shale.
1030- 70-Ctgs: Same.
1070- 80-Ctgs: Dark gray to black micaceous carbonaceous shale.
1080-1120-Ctgs: Same.
1120- 30-Ctgs: Black micaceous carbonaceous shale.
1130- 70-Ctgs: Black micaceous carbonaceous shale.
1170- 80-Ctgs: Dense black micaceous carbonaceous shale.
1180-1200-Ctgs: Same.
1200- 10-Ctgs: Black micaceous carbonaceous shale.
1210- 20-Ctgs: Same with dark gray shale.
1220- 30-Ctgs: Black micaceous carbonaceous shale.
1230- 50-Ctgs: Same.
1250- 60-Ctgs: Black micaceous carbonaceous shale.
1260-1320-Ctgs: Same.
1320-Ctgs: Black micaceous carbonaceous shale, medium-grained sandstone fragment.
1330- 40-Ctgs: Black micaceous carbonaceous shale. Coal frag.
1340- 50-Ctgs: Same with more sandstone. Coal fragment noted.
1350- 60-Ctgs: Black micaceous carbonaceous shale.
1360-1540-Ctgs: Black micaceous carbonaceous shale.
1540- 50-Ctgs: Black micaceous carbonaceous shale.
1550- 60-Ctgs: Same and hard brown claystone noted.
1560- 90-Ctgs: Same.
1590-1600-Ctgs: Dense black micaceous carbonaceous shale.
1600-1720-Ctgs: Dense black micaceous carbonaceous shale.
1720- 30-Ctgs: Same and dark gray shale with gray hard fine-grained sandstone.
1730- 40-Ctgs: Gray hard fine-grained micaceous sandstone and dark gray and black micaceous carbonaceous shale.
1740- 50-Ctgs: Same.
1750- 60-Ctgs: Black micaceous carbonaceous shale.
1760- 70-Ctgs: Same.
1770- 80-Ctgs: Black micaceous carbonaceous, slightly sandy.
1780-1810-Ctgs: Same.
1810- 20-Ctgs: Black micaceous, carbonaceous shale.

- 1820- 30-Ctgs: Same.
- 1830- 40-Ctgs: Black carbonaceous shale.
- 1840- 70-Ctgs: Same.
- 1870- 80-Ctgs: Black carbonaceous shale.
- 1880-1920-Ctgs: Same.
- 1920- 30-Ctgs: Same and gray hard sandstone with mica.
- 1930- 40-Ctgs: Same and gray hard medium-grained micaceous sandstone.
- 1937- 45—Core— Brown and gray hard medium-grained micaceous, calcareous sandstone with white spotted appearance. Gray shale lenses in part of core. Part of core shale and sandstone alternating with considerable mica in parts.
- 1950- 60-Ctgs: Medium-grained hard micaceous sandstone and black shale.
- 1960- 70-Ctgs: Same and black shale.
- 1970- 80-Ctgs: Same with more black shale.
- 1990-2000-Ctgs: Black hard micaceous sandy shale.
- 2000- 10-Ctgs: Hard black micaceous sandy shale.
- 2030- 70-Ctgs: Same.
- 2070- 80-Ctgs: Same and coal frag. noted.
- 2080- 90-Ctgs: Black micaceous, carbonaceous shale.
- 2090-2130-Ctgs: Same.
- 2130- 40-Ctgs: Same with sandstone frag.
- 2140-2320-Ctgs: Same.
- 2320- 30-Ctgs: Same and sandy shale.
- 2330- 50-Ctgs: Same.
- 2350- 60-Ctgs: Same with sandy shale.
- 2360- 70-Ctgs: Same with more micaceous sandy shale.
- 2370-2440-Ctgs: Same.
- 2440- 50-Ctgs: Black micaceous, carbonaceous shale and sandy shale.
- 2450- 80-Ctgs: Same.
- 2480- 95—Core— Black micaceous shale and sandy shale.
- 2500- 70-Ctgs: Same.
- 2570- 80-Ctgs: Same with gray hard fine-grained sandstone.
- 2580- 90-Ctgs: Light gray hard fine-grained micaceous sandstone and sandy shale.
- 2590-2600-Ctgs: Same.
- 2610- 20-Ctgs: Same. Lost returns.
- 2620- 30-Ctgs: Black micaceous, carbonaceous shale and sandy shale.
- 2630- 90-Ctgs: Same.
- 2700- 10-Ctgs: Light gray hard fine-grained micaceous sandstone, black micaceous, carbonaceous shale. Coal frag.
- 2710- 20-Ctgs: Brown hard calcareous sandstone, black and gray shale and sandy shale. Lost returns.
- 2720- 30-Ctgs: Gray to black shale and sandy shale.
- 2730- 40-Ctgs: Black micaceous carbonaceous shale and sandy shale.
- 2740- 80-Ctgs: Same.
- 2780- 90-Ctgs: Same and gray sandy shale.
- 2790-2800-Ctgs: Same.
- 2800- 10-Ctgs: Gray hard very fine-grained sandstone and black shale.

- 2810- 20-Ctgs: Light gray hard sandstone with mica, black shale.
2820- 30-Ctgs: Gray sandy shale and gray and black carbonaceous shale.

Core #4

- 2821- 35—Core— Gray hard sandy shale with mica and asphaltic ? residue
in part of core.
2830- 40-Ctgs: Gray sandy shale and gray and black carbonaceous shale.
2840- 60-Ctgs: Same.
2860- 70-Ctgs: Gray sandy shale and black carbonaceous shale.
2870- 80-Ctgs: Black micaceous, carbonaceous shale.
2880- 90-Ctgs: Same with gray sandstone.
2890-2900-Ctgs: Same.
2900- 10-Ctgs: Medium-grained sand, sandy shale, large flakes of mica,
black carbonaceous shale, gravel from above ?
2910- 20-Ctgs: Same with sandy shale.
2920- 30-Ctgs: Gray to black carbonaceous shale and sandy shale.
2930- 40-Ctgs: Same.
2940- 50-Ctgs: Gray to black shale and sandy shale.
2950- 60-Ctgs: Gray sandy micaceous shale and black micaceous, car-
bonaceous shale.
2960-3000-Ctgs: Same.
3010- 20-Ctgs: Same and sandy shale.
3020- 30-Ctgs: Same with fine sand.
3030- 40-Ctgs: Same with gravel from above.
3040- 50-Ctgs: Same.
3050- 60-Ctgs: Black micaceous, carbonaceous shale.
3060-3110-Ctgs: Same.
3110- 20-Ctgs: Same with gray fine-grained micaceous sandstone.
3120- 30-Ctgs: Black to gray carbonaceous shale and sandy shale. Coal
frag.
3130- 40-Ctgs: Same with sandy shale.
3140- 70-Ctgs: Same.
3170- 80-Ctgs: Black micaceous, carbonaceous shale and sandy shale.
3180- 90-Ctgs: Gray fine-grained micaceous sandstone and sandy shale,
black carbonaceous shale.
3190-3220-Ctgs: Same.
3220- 30-Ctgs: Gray to black sandy shale.
3240- 60-Ctgs: Same.
3270- 80-Ctgs: Gray micaceous sandy shale and black carbonaceous shale.
3280- 90-Ctgs: Same.
3290-3300-Ctgs: Black micaceous, carbonaceous shale and sandy shale.
3300- 10-Ctgs: Same.
3310- 20-Ctgs: Black micaceous, carbonaceous shale.
3320- 70-Ctgs: Same.
3370- 80-Ctgs: Black micaceous, carbonaceous shale with coal; sandy
shale.
3380- 90-Ctgs: Gray fine-grained sandstone with mica; black shale.

Core #5

- 3390- 99—Core— Complete recovery—Gray hard fine-grained micaceous sandstone with plant impressions and deposits of hydrocarbons from plant remains or asphaltic residue.
- 3400- 10-Ctgs: Light gray medium-grained hard micaceous sandstone and black shale.
- 3410- 20-Ctgs: Light gray medium-grained sandstone with mica and black shale.
- 3420- 30-Ctgs: Gray sandy shale, gray hard sandstone, black micaceous carbonaceous shale.
- 3430- 40-Ctgs: Black shale and sandy shale.
- 3450- 60-Ctgs: Black shale and sandstone frag.
- 3460- 70-Ctgs: Gray hard fine-grained sandstone with mica and dark gray shale.
- 3470- 80-Ctgs: Gray fine-grained sandstone and sandy shale, black shale.
- 3480- 90-Ctgs: Same.
- 3490-3500-Ctgs: Gray sandy shale, black shale.
- 3500- 10-Ctgs: Gray micaceous sandy shale.
- 3510- 20-Ctgs: Same and fine-grained sand and sandstone.
- 3520- 30-Ctgs: Gray fine-grained sandy micaceous shale and fine sand.
- 3530- 40-Ctgs: Same.
- 3540- 50-Ctgs: Gray sandy shale and black shale, micaceous.
- 3550- 60-Ctgs: Black micaceous shale and sandy shale.
- 3560- 70-Ctgs: Gray sandy shale and black shale.
- 3570- 80-Ctgs: Black shale and gray sandy shale.
- 3580- 90-Ctgs: Gray fine-grained sandstone and sandy shale and black shale.
- 3590-3600-Ctgs: Same.
- 3610- 20-Ctgs: Black shale and gray sandy shale.
- 3620- 30-Ctgs: Gray sandy shale and black shale.
- 3630- 40-Ctgs: Black shale and gray sandy shale.
- 3640- 50-Ctgs: Gray sandy shale and black shale.
- 3650- 60-Ctgs: Same.
- 3660- 70-Ctgs: Gray sandy shale and black shale.
- 3670- 80-Ctgs: Gray sandy shale, medium-grained sand.
- 3680- 90-Ctgs: Gray hard fine-grained sandstone, black shale.
- 3690-3700-Ctgs: Medium to fine-grained sand and sandy shale.
- 3700- 10-Ctgs: Hard black shale, medium to fine-grained sand.
- 3710- 20-Ctgs: Same and black shale.
- 3720- 30-Ctgs: Black hard micaceous shale.
- 3730- 40-Ctgs: Black shale and gray sandy shale.
- 3740- 50-Ctgs: Black shale and gray sandy shale.
- 3750- 60-Ctgs: Black shale and gray sandy shale.
- 3760- 70-Ctgs: Black shale with mica.
- 3770- 80-Ctgs: Black shale.
- 3780- 90-Ctgs: Black shale with mica.
- 3790-3800-Ctgs: Black micaceous shale and sandy shale.¹¹
- 3800- 10-Ctgs: Black shale.
- 3810- 20-Ctgs: Same.

- 3820- 30-Ctgs: Light gray hard fine-grained sandstone and black micaceous, carbonaceous shale.
- 3830- 40-Ctgs: Black shale and gray very hard fine-grained sandstone.
- 3840- 50-Ctgs: Medium-grained sand, light gray hard fine-grained sandstone, gray and black shale.
- 3855- 59—Core— Recovery 3 ft. 6 in.—Brown and gray hard fine-grained micaceous sandstone with black micaceous shale lenses.
- 3850- 60-Ctgs: Light gray hard fine-grained sandstone and black shale.
- 3860- 70-Ctgs: Gray and brown hard fine-grained sandstone and gray to black shale.
- 3870- 80-Ctgs: Light gray and brown hard fine-grained and black shale.
- 3880- 90-Ctgs: Gray hard fine-grained sandstone and sandy shale, black shale.
- 3890-3900-Ctgs: Light gray hard fine-grained sandstone and sandy shale.
- 3900- 10-Ctgs: Light gray hard fine-grained sandstone, black and gray shale.
- 3910- 20-Ctgs: Light gray hard fine-grained sandstone and black shale.
- 3920- 30-Ctgs: Gray hard fine-grained sandstone and black shale.
- 3930- 40-Ctgs: Black shale and gray sandy shale.
- 3940- 50-Ctgs: Black shale and gray sandy shale.
- 3950- 60-Ctgs: Black shale and gray sandy shale.
- 3970- 80-Ctgs: Black shale, coarse to fine-grained sand.
- 3980- 90-Ctgs: Black shale and sand.
- 3990-4000-Ctgs: Black shale.
- 4000- 10-Ctgs: Black dense hard shale.
- 4010- 20-Ctgs: Black shale.
- 4020- 30-Ctgs: Black dense shale with mica.
- 4030- 40-Ctgs: Hard black shale and gray sandy shale.
- 4040- 50-Ctgs: Black shale and gray sandy shale.
- 4050- 60-Ctgs: Black dense hard shale.
- 4060- 70-Ctgs: Black micaceous, carbonaceous shale and gray fine-grained mic. sandstone and sandy shale.
- 4070- 80-Ctgs: Same with more sandstone.
- 4080- 90-Ctgs: Light gray hard fine-grained sandstone with mica, dense black shale.
- 4090-4100-Ctgs: Gray hard fine-grained sandstone, part with brown stain, brown fossiliferous lime frag. noted.
- 4100- 10-Ctgs: Gray and brown stained hard fine-grained sandstone with mica, black carbonaceous shale and sandy shale.
- 4110- 20-Ctgs: Same.
- 4120- 30-Ctgs: Light gray fine-grained sandstone, gray and black shale.
- 4130- 40-Ctgs: Gray hard fine-grained sandstone, gray and black shale.
- 4140- 50-Ctgs: Gray hard fine-grained sandstone and gray and black shale.
- 4150- 60-Ctgs: Gray hard fine-grained sandstone, gray and black shale.
- 4160- 70-Ctgs: Light gray fine-grained sandstone with brown stain, black and gray shale.
- 4170- 80-Ctgs: Light gray hard fine-grained sandstone, black and gray carb. shale.

- 4180- 90-Ctgs: Light gray hard medium-grained sandstone, black carbonaceous shale.
- 4200- 10-Ctgs: Light gray hard medium-grained sandstone with mica; black shale, from above ?
- 4210- 20-Ctgs: Same.
- 4220- 30-Ctgs: Same with somewhat coarser sand.
- 4230- 40-Ctgs: Black dense shale and light gray sandstone frag.
- 4240- 50-Ctgs: Light gray hard fine-grained micaceous sandstone, dense black shale.
- 4250- 60-Ctgs: Same.
- 4260- 70-Ctgs: Gray sandy shale and black shale with mica.
- 4270- 80-Ctgs: Some with more mica.
- 4280- 90-Ctgs: Same.
- 4290-4300-Ctgs: Gray sandy micaceous shale.
- 4300- 10-Ctgs: Medium-grained sand and dark gray sandy shale with mica.
- 4310- 20-Ctgs: Same.
- 4320- 30-Ctgs: Dark gray micaceous sandy shale and dense black shale.
- 4330- 90-Ctgs: Same.
- 4390-4400-Ctgs: Black hard micaceous shale and sandy shale.
- 4400- 30-Ctgs: Same.
- 4430- 40-Ctgs: Same with dense black shale. Coal frag. Brown claystone.
- 4440- 50-Ctgs: Same.
- 4450- 60-Ctgs: Dense black shale and sandy shale.
- 4460- 70-Ctgs: Dense black shale.
- 4470- 80-Ctgs: Dense black shale.
- 4480-4500-Ctgs: Same.
- 4500- 10-Ctgs: Black dense shale.
- 4510- 20-Ctgs: Same and gray sandstone frag.
- 4520- 30-Ctgs: Same.
- 4530- 40-Ctgs: Light gray medium-grained hard sandstone with mica and black shale.
- 4540- 50-Ctgs: Same. Part of sandstone slightly brownish.
- 4550- 70-Ctgs: Same.
- 4570- 80-Ctgs: Light gray medium-grained hard sandstone with mica and sand; black shale.
- 4580- 90-Ctgs: Same.
- 4590-4600-Ctgs: Light gray hard medium-grained sandstone with mica, and black shale.
- 4600- 10-Ctgs: Same with gray very micaceous sandy shale.
- 4610- 20-Ctgs: Gray very micaceous sandy shale.
- 4620- 60-Ctgs: Same.
- 4660- 70-Ctgs: Same and medium-grained sand.
- 4670- 80-Ctgs: Same.
- 4680- 90-Ctgs: Dark gray micaceous sandy shale.
- 4690-4700-Ctgs: Same. Black shale noted.
- 4700- 10-Ctgs: Same with black shale.
- 4710- 20-Ctgs: Coarse-grained sand, dark gray micaceous sandy shale.

- 4720- 30-Ctgs: Dark gray to black shale and sandy shale with mica.
4730- 40-Ctgs: Same.
4740- 50-Ctgs: Black shale.
4750- 60-Ctgs: Same.
4760- 70-Ctgs: Same and light gray hard fine-grained sandstone.
4770- 80-Ctgs: Light gray hard fine-grained sandstone with mica.
4780- 90-Ctgs: Same with black shale.
4790-4800-Ctgs: Light gray hard fine-grained sandstone with mica; black shale.
4800- 10-Ctgs: Gray medium-grained sand and sandstone, black shale, large mica flakes.
4810- 20-Ctgs: Gray fine-grained sandstone and medium-grained sand, sandy shale and black shale with mica.
4820- 30-Ctgs: Medium-grained sandstone with mica, black shale.
4830- 40-Ctgs: Same with coal fragments.
4840- 50-Ctgs: Same.
4850- 60-Ctgs: Black shale, coal and sandstone fragment.
4860- 80-Ctgs: Same.
4880- 90-Ctgs: Same and sandy shale.
4890-4900-Ctgs: Same.
4900- 10-Ctgs: Black shale, sandy shale.
4910- 20-Ctgs: Same.
4920- 30-Ctgs: Same and hard fine-grained sandstone; coal fragments.
4930- 40-Ctgs: Light gray hard fine-grained sandstone, gray sandy shale, black shale, large flakes of mica.
4940- 50-Ctgs: Light gray hard medium to fine-grained sandstone, gray and black shale.
4950- 60-Ctgs: Black carbonaceous shale, sandy shale and light gray hard medium-grained sandstone.
4960- 70-Ctgs: Same.
4970- 80-Ctgs: Same and mica.
4980- 90-Ctgs: Same.
4990-5000-Ctgs: Light gray hard medium-grained sandstone, black shale, large flakes of mica.
5000- 10-Ctgs: Light gray medium-grained sand and sandstone, black shale and chert gravel, from above.
5010- 20-Ctgs: Light gray medium-grained sandstone and black shale.
5020- 50-Ctgs: Same.
5050- 60-Ctgs: Light gray hard medium-grained sandstone and black shale.
5060- 70-Ctgs: Same.
5070- 80-Ctgs: Light gray sandy shale and black shale.
5080- 90-Ctgs: Dark gray sandy shale and black shale.
5090-5100-Ctgs: Same.
5115-Ctgs: Gray hard medium-grained sandstone and brown medium-grained calcareous sandstone, black shale and sandy shale.
5100- 10-Ctgs: Brown lime fragments with **crinoid stems**, and brown calcareous sandstone, light gray hard medium-grained sandstone, and black shale. Coal frag.

- 5110- 20-Ctgs: Light gray hard fine-grained sandstone and sandy shale, black micaceous, carbonaceous shale and coal frag.
- 5120- 30-Ctgs: Medium to coarse-grained sand and dark gray to black sandy shale.
- 5130- 40-Ctgs: Same and gray hard fine-grained sandstone.
- 5140- 50-Ctgs: Gray sandy micaceous shale and black shale.
- 5150- 60-Ctgs: Same with coal frag.
- 5160- 70-Ctgs: Light gray hard medium to fine-grained sandstone, black micaceous, carbonaceous shale.
- 5170- 80-Ctgs: Light gray medium-grained hard micaceous sandstone and sand from above; black shale.
- 5180-5200-Ctgs: Same.
- 5200- 10-Ctgs: Gray and black micaceous shale, part sandy and medium-grained hard sandstone.
- 5210- 20-Ctgs: Gray very hard sandy shale, micaceous and black micaceous shale.
- 5220- 50-Ctgs: Same.
- 5250- 60-Ctgs: Same with light gray medium-grained hard sandstone. Coal frag.
- 5260- 70-Ctgs: Light gray medium-grained very hard sandstone, gray and black shale.
- 5270- 80-Ctgs: Same.
- 5280- 90-Ctgs: Same with occasional coarse sand grains.
- 5290-5300-Ctgs: Same with more coarse sand grains.
- 5300- 10-Ctgs: Medium-grained sand and sandstone, coarse sand grains, gray to black shale.
- 5310- 20-Ctgs: Same.
- 5320- 30-Ctgs: Gray sandy micaceous shale and black shale. Coal frag.
- 5330- 40-Ctgs: Same and medium-grained hard sandstone.
- 5340- 60-Ctgs: Same.
- 5360- 70-Ctgs: Light gray very hard medium-grained sandstone with occasional coarse sand grains.
- 5370- 80-Ctgs: Same.
- 5380- 90-Ctgs: Same with black shale.
- 5390-5400-Ctgs: Same and coal fragments.
- 5400- 10-Ctgs: Light gray very hard coarse-grained sandstone and fine-grained sandstone, gray sandy shale and black carbonaceous shale.
- 5410- 20-Ctgs: Same and coal fragments.
- 5420- 30-Ctgs: Same with gray very micaceous sandy shale.
- 5430- 40-Ctgs: Black carbonaceous shale, coal, gray sandy shale and sandstone fragments.
- 5440- 60-Ctgs: Same.
- 5460- 70-Ctgs: Same with asphaltic ? material.
- 5470- 80-Ctgs: Light gray hard medium to fine-grained sandstone, gray sandy shale and black carbonaceous shale.
- 5480- 90-Ctgs: Black micaceous, carbonaceous shale, gray hard sandstone and sandy shale.

5490-5500-Ctgs: Gray micaceous sandy shale, black micaceous, carbonaceous shale, light gray hard fine-grained sandstone.

Summary

Eutaw 40' to 150'

Gap

Tuscaloosa at 220'

Pennsylvanian at 940-50'
and continues to T. D. 5500'

TUSCALOOSA COUNTY

Stanolind Oil & Gas Co.

G. B. Sandel #1

SE/4 of NW/4

Sec. 2—T 18 S—R 9 W

Tuscaloosa County, Ala.

Elev. at top of casing 600 ft.

Began April 2, 1943

Comp. July 13, 1943

- | | | |
|------|-----------|--|
| 40- | 50-Ctgs: | Fine-grained micaceous sand, part yellow. |
| 50- | 60-Ctgs: | Gray medium-grained micaceous sandstone. |
| 60- | 70-Ctgs: | Gray hard micaceous, carbonaceous sandstone and black micaceous sandy shale. |
| 70- | 80-Ctgs: | Black to gray micaceous, carbonaceous sandy shale. |
| 80- | 90-Ctgs: | Same, and sandstone from above. |
| 90- | 160-Ctgs: | Same. |
| 160- | 70-Ctgs: | Same, slightly fossiliferous. |
| 170- | 80-Ctgs: | Same and greenish gray coarse-grained micaceous sandstone; black carbonaceous fossiliferous shale noted. |
| 180- | 200-Ctgs: | Same. |
| 200- | 10-Ctgs: | Same and gray shale with siderite concretions. |
| 210- | 20-Ctgs: | Same. Coal fragments noted. |
| 220- | 30-Ctgs: | Black carbonaceous shale, part with mica; gray coarse-grained micaceous sandstone. Frag. of gray shale with siderite concretions. |
| 230- | 40-Ctgs: | Same, with fine-grained micaceous sandstone. |
| 240- | 50-Ctgs: | Same and frag. of gray shale with siderite ? concretions. |
| 250- | 60-Ctgs: | Gray medium-grained hard micaceous sandstone, black carbonaceous shale, part micaceous. |
| 260- | 70-Ctgs: | Same. |
| 280- | 90-Ctgs: | Same and micaceous carbonaceous sandy shale. |
| 290- | 300-Ctgs: | Same and vein calcite noted. |
| 300- | 10-Ctgs: | Same with increasing amount of shale and sandy shale. |
| 310- | 20-Ctgs: | Black micaceous carbonaceous shale and sandy shale; gray hard micaceous sandstone. |
| 320- | 40-Ctgs: | Same. |
| 340- | 50-Ctgs: | Same. |
| | | Shell fragments noted. |
| 350- | 70-Ctgs: | Same. |
| 370- | 80-Ctgs: | Light gray hard coarse-grained micaceous sandstone, black micaceous, carbonaceous shale, and gray micaceous sandy shale; gray shale with siderite concretions. |
| 380- | 400-Ctgs: | Same. |
| 400- | 10-Ctgs: | Same. Coal fragments noted. |
| 410- | 20-Ctgs: | Same. |

- 420- 30-Ctgs: Same. Calcite noted.
Brachiopod frag.
- 430- 40-Ctgs: Black micaceous, carbonaceous shale and micaceous sandy shale; gray coarse-grained micaceous sandstone.
Shell frag. noted.
- 440- 500-Ctgs: Same.
- 500- 10-Ctgs: Black micaceous, carbonaceous shale and sandy shale and micaceous sandstone.
- 510- 50-Ctgs: Same.
- 550- 60-Ctgs: Black micaceous carbonaceous shale and sandy shale.
- 560- 70-Ctgs: Same.
- 570- 80-Ctgs: Same. Lime noted.
- 580- 90-Ctgs: Same.
- 590- 600-Ctgs: Same and sandstone frag.
- 600- 10-Ctgs: Light gray coarse-grained micaceous sandstone, gray sandy shale, black carbonaceous shale.
- 610- 720-Ctgs: Same.
- 720- 30-Ctgs: Same and brown claystone.
- 730- 40-Ctgs: Black micaceous, carbonaceous shale and sandy shale and sandstone. Lime frag.
- 740- 70-Ctgs: Same.
- 770- 80-Ctgs: Gray hard medium-grained micaceous sandstone, gray micaceous sandy shale.
- 780- 90-Ctgs: Same and black micaceous, carbonaceous shale.
- 790- 870-Ctgs: Same.
- 870- 80-Ctgs: Same and carbonaceous material noted.
- 880- 930-Ctgs: Same.
- 930- 40-Ctgs: Gray sandy shale with mica, black shale, light gray micaceous sandstone.
- 940- 70-Ctgs: Same.
- 970- 80-Ctgs: Same and black carbonaceous shale.
- 980- 90-Ctgs: Same. Brown sandy lime noted.
- 990-1020-Ctgs: Same.
- 1020- 30-Ctgs: Black carbonaceous shale, micaceous sandy shale and sandstone frag.
- 1030- 60-Ctgs: Same.
- 1060- 70-Ctgs: Same and brown claystone.
- 1070- 80-Ctgs: Brown hard micaceous sandstone, black shale and sandy shale.
- 1080- 90-Ctgs: Same.
- 1090-1100-Ctgs: Black shale, brown and gray sandstone and sandy shale.
- 1100- 06-Ctgs: Same.
- 1160- 70-Ctgs: Same with gray micaceous sandstone.
- 1170- 80-Ctgs: Same.
- 1180- 90-Ctgs: Black micaceous, carbonaceous sandy shale sandstone frag.
- 1190-1200-Ctgs: Same.
- 1200- 10-Ctgs: Same.
- 1210- 20-Ctgs: Same.
Shell frag. noted.

- 1220- 30-Ctgs: Same.
 1230- 40-Ctgs: Same and brown lime frag.
 1240-1300-Ctgs: Same.
 1300- 10-Ctgs: Black micaceous, carbonaceous shale and sandy shale, sandstone frag.
 1310- 20-Ctgs: Gray medium-grained hard micaceous sandstone, black carbonaceous shale and sandy shale.
 1320- 30-Ctgs: Same.
 1330- 40-Ctgs: Black micaceous, carbonaceous shale, light gray sandstone frag.
 1340- 50-Ctgs: Same and gray micaceous sandstone.
 1350- 60-Ctgs: Same.
 1360- 70-Ctgs: Black micaceous, carbonaceous shale and sandy shale.
 1370- 80-Ctgs: Same.
 Plant impressions noted.
 1380-1430-Ctgs: Same.
 1430- 40-Ctgs: Same and gray hard fine-grained micaceous sandstone, siderite concretions.
 1440- 60-Ctgs: Same and carbonaceous material.
 1460- 70-Ctgs: Gray hard micaceous, carbonaceous sandstone and sandy shale.
 1470- 90-Ctgs: Same.
 1490-1500-Ctgs: Same and black carbonaceous shale.
 1500- 60-Ctgs: Same.
 1560- 70-Ctgs: Black carbonaceous shale, gray hard fine-grained micaceous sandstone and sandy shale.
 1570- 80-Ctgs: Gray to black carbonaceous sandy shale, gray micaceous sandstone.
 1580- 90-Ctgs: Black carbonaceous shale and sandy shale with mica.
 1590-1600-Ctgs: Same. Coal frag. noted.
 1600- 30-Ctgs: Same.
 1630- 40-Ctgs: Gray sandy micaceous shale, black carbonaceous shale. Crinoid ? frag.
 1640- 50-Ctgs: Same with lime frag.
 1650- 70-Ctgs: Same.
 1670- 80-Ctgs: Black carbonaceous shale; gray micaceous sandstone.
 1680- 90-Ctgs: Same and brown calcareous sandstone frag.
 1690-1710-Ctgs: Same.
 1710- 20-Ctgs: Medium-grained sandstone with brown stain, black shale frag.
 1720- 40-Ctgs: Same.
 1740- 50-Ctgs: Black shale and sandy shale and medium-grained hard sandstone.
 1750- 60-Ctgs: Same with coal and carb. material.
 1760- 70-Ctgs: Gray to black shale and sandy shale, medium grained closely cemented sandstone, gray shale with siderite concretions.
 1770- 90-Ctgs: Same.
 1790-1800-Ctgs: Gray to black micaceous sandy shale.

- 1800- 90-Ctgs: Same.
1890-1900-Ctgs: Same with dark gray fine-grained sandstone.
1900- 10-Ctgs: Same.
1910- 20-Ctgs: Black carbonaceous shale and sandy shale; light gray hard medium-grained sandstone.
1920- 30-Ctgs: Same.
1930- 40-Ctgs: Same and brown micaceous sandstone.
1940- 50-Ctgs: Same.
1950- 60-Ctgs: Light gray medium-grained sandstone, black shale and sandy shale.
1960- 70-Ctgs: Light gray hard medium-grained sandstone, gray sandy shale.
1970- 80-Ctgs: Same.
1980- 90-Ctgs: Black carbonaceous shale, gray sandy shale; gray sandstone.
1990-2000-Ctgs: Light gray medium-grained hard sandstone, black carbonaceous shale and sandy shale.
2000- 10-Ctgs: Same.
2010- 20-Ctgs: Black carbonaceous and sandy shale.
2020- 30-Ctgs: Same and sandstone.
2030- 50-Ctgs: Same.
2050- 60-Ctgs: Black carbonaceous shale and sandy shale. Coal frag. noted.
2060- 70-Ctgs: Gray hard micaceous sandstone and sandy shale.
2070-2100-Ctgs: Same.
2100- 10-Ctgs: Same and frag. of coal.
2110- 20-Ctgs: Coarse to medium-grained quartzitic sandstone, black shale and sandy shale, carbonaceous material.
2120- 30-Ctgs: Brownish coarse-grained quartzitic sandstone.
2130- 40-Ctgs: Same.
2140- 50-Ctgs: Same and brown claystone. Coal noted.
2150- 60-Ctgs: Same with gray to black sandy shale.
2160- 70-Ctgs: Gray to black sandy shale, sandstone frag.
2170- 80-Ctgs: Coarse and medium-grained sandstone, black shale and sandy shale.
2180- 90-Ctgs: Black micaceous sandy shale, gray hard sandstone.
2190-2200-Ctgs: Same.
2200- 10-Ctgs: Brown hard closely cemented sandstone with mica and sandy mic. carbonaceous shale.
2210- 20-Ctgs: Same.
2220- 30-Ctgs: Black micaceous carbonaceous shale and sandy shale.
2230- 70-Ctgs: Same.
2270- 80-Ctgs: Hard medium-grained sandstone with mic. stained brown.
2280- 90-Ctgs: Same with sandy shale.
2290-2300-Ctgs: Sandstone with mica stained brown, and gray to black sandy micaceous carbonaceous shale.
2300- 40-Ctgs: Same.
2340- 50-Ctgs: Black micaceous carbonaceous shale and sandy shale.

- 2350- 60-Ctgs: Hard coarse to medium-grained sandstone stained brown; carbonaceous shale noted.
- 2360- 70-Ctgs: Hard coarse-grained sandstone with mica, stained brown.
- 2370- 80-Ctgs: Same with shale.
- 2380- 90-Ctgs: Same. Carbonaceous material noted.
- 2390-2400-Ctgs: Medium-grained sandstone with mica; sandy shale with carbonaceous material.
- 2400- 30-Ctgs: Same.
- 2430- 40-Ctgs: Same and black carbonaceous shale.
- 2440- 60-Ctgs: Same.
- 2460- 70-Ctgs: Light gray hard medium-grained sandstone and sandy shale.
- 2470- 80-Ctgs: Same.
- 2480- 90-Ctgs: Same with black carbonaceous shale present.
- 2490-2540-Ctgs: Same.
- 2540- 50-Ctgs: Light gray hard coarse-grained sandstone with asphaltic residue.
- 2550- 60-Ctgs: Same with black carbonaceous shale and sandy shale.
- 2560- 70-Ctgs: Gray medium-grained micaceous sandstone and sandy shale.
- 2570- 80-Ctgs: Light gray hard medium-grained micaceous sandstone.
- 2580- 90-Ctgs: Same.
- 2590-2600-Ctgs: Same and black carbonaceous shale.
- 2600- 10-Ctgs: Same. Black carbonaceous shale lenses noted.
- 2610- 60-Ctgs: Same.
- 2660- 67-Ctgs: Same with black shale and carbonaceous material. Brown claystone.
- 2667- 70-Ctgs: Same, with coal.
- 2670- 80-Ctgs: Black micaceous sandy shale.
- 2680- 90-Ctgs: Gray sandstone, black carbonaceous shale and sandy shale. Coal frag. noted.
- 2690-2700-Ctgs: Light gray hard medium to coarse-grained sandstone, black shale.
- 2700- 10-Ctgs: Same.
- 2710- 20-Ctgs: Same. Gravel noted.
- 2720- 40-Ctgs: Same.
- 2740- 50-Ctgs: Light gray hard coarse-grained to medium-grained sandstone.
- 2750- 60-Ctgs: Same.
- 2760- 70-Ctgs: Coarse-grained hard sandstone, black shale and sandy shale.
- 2770- 80-Ctgs: Same with increasing amount of black carbonaceous shale.
- 2780- 90-Ctgs: Gray hard medium-grained sandstone and sandy shale; black carbonaceous shale.
- 2790-2800-Ctgs: Gray hard sandy shale and black micaceous carbonaceous shale.
- 2800- 20-Ctgs: Same.
- 2820- 30-Ctgs: Same and sandstone.

- 2830- 40-Ctgs: Medium to fine-grained sandstone and sandy shale, black carbonaceous.
- 2840- 60-Ctgs: Same.
- 2860- 70-Ctgs: Gray hard medium-grained micaceous sandstone and brown limy sandstone with brown claystone; gray sandy shale.
- 2870- 80-Ctgs: Same.
- 2880- 90-Ctgs: Gray sandy shale and brown impure lime.
- 2890-2900-Ctgs: Same with gray sandstone and brown crystalline limestone, fossiliferous.
- 2900- 10-Ctgs: Gray to black sandy shale with pyrite; brown limestone frag.
- 2910- 20-Ctgs: Same and sandstone frag.
- 2920- 40-Ctgs: Same.
- 2940- 50-Ctgs: Brown limestone and black shale and sandy shale, sandstone from above ? Pyrite.
- 2950- 70-Ctgs: Same.

Pennsylvanian

- 2970- 80-Ctgs: Gray hard sandstone and sand; black shale and sandy shale, brown lime frag. with **crinoid stems** noted.
- 2980- 90-Ctgs: Drab-colored dense limestone, brown sandy limestone and material from above.

Ordovician on basis of lithology

- 2990-3000-Ctgs: Drab-colored to brown dense limestone. Sandy limestone noted.
- 3000- 10-Ctgs: Drab-colored dense limestone, greenish tinge noted.
- 3010- 20-Ctgs: Same with brown limestone.
- 3020- 30-Ctgs: Same.
- 3030- 40-Ctgs: Same with granular greenish-tinged limestone.
- 3050- 60-Ctgs: Same.
- 3060- 70-Ctgs: Greenish gray granular and dense limestone and drab-colored dense limestone.
- 3070- 80-Ctgs: Same with greenish dense limestone.
- 3090-3100-Ctgs: Same.
- 3100- 10-Ctgs: Same. Sandy limestone frag. noted, with rounded quartz grains.
- 3110- 20-Ctgs: Same.
- 3120- 30-Ctgs: Drab-colored and greenish dense limestone.
- 3130- 50-Ctgs: Same.
- 3150- 60-Ctgs: Drab-colored dense limestone.
- 3160-3230-Ctgs: Same.
- 3230- 40-Ctgs: Same and greenish-tinged finely granular limestone.
- 3240- 60-Ctgs: Same.
- 3260- 70-Ctgs: Same. Sandy limestone noted with rounded quartz grains.
- 3270-3370-Ctgs: Same.
- 3370- 80-Ctgs: Same, with green finely granular sandy limestone, part carrying rounded quartz grains.
- 3380-3420-Ctgs: Same.

- 3420- 30-Ctgs: Same with brown limestone carrying rounded quartz grains.
- 3430- 40-Ctgs: Light gray and buff-colored dense limestone.
- 3440- 50-Ctgs: Same.
- 3450- 60-Ctgs: Cream-colored granular limestone and drab-colored dense and granular limestone.
- 3460- 70-Ctgs: Gray and brown dense and granular limestone, slightly sandy.
- 3470- 90-Ctgs: Same.
- 3490-3500-Ctgs: Same with light green dense and sandy limestone.
- 3500- 10-Ctgs: Greenish gray dense limestone, brown granular limestone, slightly sandy.
- 3510- 20-Ctgs: Light green, brown and drab-colored dense limestone, slightly sandy.
- 3520- 30-Ctgs: Same.
- 3530- 40-Ctgs: Greenish gray dense limestone.
- 3540- 50-Ctgs: Same. Brown limestone noted.
- 3550- 60-Ctgs: Same and drab-colored limestone.
- Sand logged at 3564-55 feet.
- 3566-Ctgs: Greenish gray dense limestone.
- 3566- 68-Ctgs: Same.
- 3570- 80-Ctgs: Same and drab-colored dense limestone. Shell impressions noted.
- 3590-3610-Ctgs: Same.
- 3610- 20-Ctgs: Same and brown dense limestone.
- 3620- 30-Ctgs: Drab-colored and brown dense limestone.
- 3630- 50-Ctgs: Same.
- 3650- 60-Ctgs: Same and greenish gray limestone.
- 3660- 70-Ctgs: Same with crystalline calcite.
- 3670-3700-Ctgs: Same.
- 3710- 20-Ctgs: Greenish gray with brown dense limestone.
- 3716- 26—Core— Greenish gray dense or lithographic limestone with fracture planes.
- 3726- 31—Core— Top same with crystalline calcite.
Middle—Same, slightly darker.
Bottom—Same with fracture planes.
- 3730- 40-Ctgs: Same, and drab-colored dense limestone.
- 3740-3880-Ctgs: Same.
- 3880- 90-Ctgs: Drab-colored dense limestone.
- 3890-3900-Ctgs: Greenish gray and drab-colored dense limestone.
- 3900- 40-Ctgs: Same.
- 3940- 50-Ctgs: Brown and drab-colored dense limestone.
- 3950- 60-Ctgs: Same; greenish limestone noted.
- 3960- 70-Ctgs: Drab-colored dense limestone.
- 3970- 80-Ctgs: Same.
- 3980- 90-Ctgs: Same and greenish limestone.
- 4000- 20-Ctgs: Same.
- 4020- 30-Ctgs: Gray dense limestone.
- 4030- 60-Ctgs: Same.

- 4060- 67-Ctgs: Gray to greenish gray dense limestone.
4070- 80-Ctgs: Greenish gray dense limestone.
4080- 90-Ctgs: Same.
4090-4100-Ctgs: Greenish gray dense limestone.
4100- 10-Ctgs: Same and greenish gray granular limestone.
Ostracod ? noted.
4410- 20-Ctgs: Same.
4120- 30-Ctgs: Same, with increasing amount of greenish gray granular limestone with pink streaks.
4130- 40-Ctgs: Greenish gray granular and dense limestone, gray dense limestone.
4140- 50-Ctgs: Same.
4150- 57-Ctgs: Greenish gray dolomite.
4160- 70-Ctgs: Same and dense greenish gray limestone.
4170- 80-Ctgs: Same with dark red, pink and greenish gray granular limestone.
4180-4200-Ctgs: Same.
4200- 10-Ctgs: Greenish gray granular and dense dolomite; red veins noted. Pink limestone.
4210-4340-Ctgs: Same.
4340- 50-Ctgs: Drab-colored dense limestone.
4350- 60-Ctgs: Same and greenish gray limestone.
4360- 90-Ctgs: Same.
4390-4400-Ctgs: Same and greenish gray dolomitic ? limestone.
4400- 30-Ctgs: Same.
4430- 40-Ctgs: Same with considerable dark red and pink limestone.
4440- 50-Ctgs: Greenish gray dolomitic and lithographic limestone with calcite veins. Pink tinged limestone noted.
Ostracods.
4450- 80-Ctgs: Same.
4480- 90-Ctgs: Same, with darker green dolomitic limestone.
4490-4540-Ctgs: Same.
4540- 50-Ctgs: Same with vivid green shale in veins.
4550- 60-Ctgs: Same, with red and green limestone, from above ?
4560- 80-Ctgs: Same.
4580- 90-Ctgs: Same, and light brown dense limestone.
4590-4610-Ctgs: Same.
4610- 20-Ctgs: Same.
Ostracods noted.
4620- 50-Ctgs: Same.
4650- 60-Ctgs: Same and green slightly sandy dolomitic limestone.
4660- 70-Ctgs: Same and drab-colored to brownish limestone, slightly sandy.
4670- 80-Ctgs: Brown limestone, part sandy, and material from above.
4680- 90-Ctgs: Same.
4690-4700-Ctgs: Same, with brown chert.
4700- 30-Ctgs: Same.
4730- 40-Ctgs: Same. **Crinoid stem** noted in brown crystalline limestone.
4740- 50-Ctgs: Greenish gray dense limestone and dolomitic limestone.

- 4750- 60-Ctgs: Same and light gray crystalline limestone with chert.
 4760- 70-Ctgs: Same with sandy streaks.
 4770- 80-Ctgs: Same and brown limestone.
 4780-4800-Ctgs: Same.
 4800- 10-Ctgs: Same, slightly sandy.
 4810- 20-Ctgs: Same.
 4820- 30-Ctgs: Brown limestone, slightly sandy.
 4830- 40-Ctgs: Same and gray dense limestone.
 4840- ~~50~~-Ctgs: Brown and gray limestone, somewhat sandy.
 4850- 60-Ctgs: Gray and brown sandy limestone, sand in rounded grains.
 4860- 70-Ctgs: Same.
 4870- 80-Ctgs: Same, more sandy.
 4880- 90-Ctgs: Same and greenish gray dense limestone.
 4890-4900-Ctgs: Same with greenish gray granular limestone.
 4900- 40-Ctgs: Same.
 4940- 45-Ctgs: Brown crystalline limestone and brown sandy limestone noted.

 4940- 50-Ctgs: Same and greenish gray dense limestone.
 4950- 60-Ctgs: Same.
 4960- 70-Ctgs: Brown and greenish gray dense limestone.
 4970- 80-Ctgs: Brown and greenish gray dense limestone, gray soft micaceous shale frag., from above ?

 4980- 90-Ctgs: Same.
 4990-5000-Ctgs: Light greenish gray dense limestone, brown dense limestone noted.

 5000- 10-Ctgs: Same.
 5010- 20-Ctgs: Greenish gray granular and dense limestone.
 5020- 30-Ctgs: Same, slightly sandy with rounded quartz grains.
 5030- 40-Ctgs: Same.
 5040- 50-Ctgs: Same with brownish sandy limestone.
 5050- 60-Ctgs: Brown granular limestone, slightly sandy.
 5060- 70-Ctgs: Same, and greenish gray limestone.
 5070- 80-Ctgs: Same.
 5080- 90-Ctgs: Same with bluish chert.
 5090-5100-Ctgs: Brown granular and dense limestone, slightly sandy, bluish gray granular and dense limestone.

 5100- 20-Ctgs: Same.
 5120- 30-Ctgs: Brown, drab and greenish gray dense limestone.
 5130- 50-Ctgs: Same.
 5150- 60-Ctgs: Same, slightly sandy, and brown granular limestone noted.
 5160- 70-Ctgs: Same.
 5170- 80-Ctgs: Gray sandy limestone.
 5180- 90-Ctgs: Same and brown dense and granular limestone.
 5190-5210-Ctgs: Same.
 5210- 20-Ctgs: Brown and gray dense and crystalline limestone, slightly sandy.

 5220- 40-Ctgs: Same.
 5240- 50-Ctgs: Brown crystalline limestone, part sandy with rounded quartz grains.

- 5250- 60-Ctgs: Same with greenish gray dense limestone.
5260- 70-Ctgs: Brown crystalline sandy limestone, greenish gray limestone, from above.
5270- 80-Ctgs: Same.
5280- 90-Ctgs: Brown and gray limestone, slightly sandy.
5290-5300-Ctgs: Same.
5300- 10-Ctgs: Same. Black shale noted.
5310- 30-Ctgs: Same.
5330- 40-Ctgs: Same. Brown limestone with mica noted.
5340- 70-Ctgs: Same.
5370- 80-Ctgs: Gray and brown limestone, part sandy.
5382-Ctgs: Gray and brown limestone, part sandy.

Core #3

- 5383- 88—Core— Brown crystalline limestone with fracture lines.

Core #4

- 5383- 88—Core— Same.
5390-5400-Ctgs: Gray and brown crystalline limestone, slightly sandy.
5400- 10-Ctgs: Same.

Summary

Pennsylvanian to 2985'

Ordovician 2985' to 5410' T.D.

WALKER COUNTY

Champlin Oil & Refining Co.

Galloway #1

Sec. 12—T 13 S—R 10 W SW/4 660' north of south line and 150' east of West line of quarter section

Walker County, Ala.

Elev. 600 ft.

Began June 15, 1940

Comp. December 4, 1940

- | | |
|------------|--|
| 0- 5-Ctgs: | Gray shale and sandy shale and brown shaly clay. |
|------------|--|
- Pennsylvanian**
- | | |
|---------------|---|
| 5- 10-Ctgs: | Same. |
| 10- 15-Ctgs: | Medium gray micaceous sandy shale, dark gray to black micaceous shale; hard brown clay. |
| 15- 20-Ctgs: | Same and indurated green shale. |
| 20- 30-Ctgs: | Same with more gray micaceous shale. Gravel noted. |
| 30- 40-Ctgs: | Coal and hard gray sandy carbonaceous shale. Plant remains. |
| 40- 50-Ctgs: | Same and black shale; gray micaceous sandy shale. Frag. of lime noted. Pyrite and pyrite nodules. |
| 50- 60-Ctgs: | Same. |
| 60- 70-Ctgs: | Hard gray micaceous shale and sandy shale. |
| 70- 75-Ctgs: | Hard light gray fine-grained micaceous, carbonaceous sandstone; frag. of black micaceous shale. |
| 75- 80-Ctgs: | Hard light gray fine-grained micaceous, carbonaceous sandstone with dark gray shale lenses. Black micaceous carbonaceous shale.
Pieces of coal. |
| 80- 85-Ctgs: | Light gray hard micaceous, carbonaceous sandstone; brownish black micaceous carbonaceous sandy shale. |
| 85- 90-Ctgs: | Same. |
| 90- 95-Ctgs: | Black micaceous, carbonaceous shale; pieces of coal; frag. of hard light gray fine-grained micaceous sandstone. |
| 95- 100-Ctgs: | Hard brownish gray medium-grained non-calcareous sandstone with considerable clay present. Brownish black carbonaceous shale with plant remains. |
| 100- 05-Ctgs: | Gray hard medium to coarse-grained sandstone with mica and asphaltic residue; light gray very hard medium-grained sandstone; light non-calcareous shale; light gray shale with brown concretions. |
| 105- 10-Ctgs: | Medium-grained sandstone impregnation with asphalt. Crystalline form preserved in some quartz grains. Gray shale with reddish brown concretions. Black and red shale frag. |

- 110- 20-Ctgs: Light gray medium to fine-grained sand, with etched and crystal faces. Mica.
- 120- 25-Ctgs: Same and sandstone with greenish tinge.
- 125- 30-Ctgs: Hard medium and fine-grained greenish gray micaceous sandstone; gray micaceous, carbonaceous sandstone; black carbonaceous shale; frag. of very coarse micaceous, carbonaceous sandstone; gray shale.
- 130- 35-Ctgs: Greenish gray micaceous, carbonaceous, medium-grained sandstone; black carbonaceous shale frag.; reddish brown medium-grained sandstone.
- 135- 40-Ctgs: Same with more black micaceous carbonaceous shale with plant remain.
- 140- 45-Ctgs: Same with considerable loose sand.
- 145- 50-Ctgs: Medium gray very fine-grained sand micaceous, carbonaceous shale; frag. of light gray sandstone.
- 150- 55-Ctgs: Same with light gray hard fine-grained sandstone and dark gray micaceous, carbonaceous shale.
- 153- 62-Ctgs: Same with increasing amount of gray fine-grained sandstone and frag. of black micaceous, carbonaceous shale; hard brown claystone.
- 160- 62-Ctgs: Same.
- 162- 67-Ctgs: Same with increasing amount of dark gray to black micaceous shale.
- 167- 72-Ctgs: Dark gray and black micaceous, carbonaceous, sandy shale.
- 172- 77-Ctgs: Same and gray fine-grained sandstone with reddish brown concretions, part with black shale lenses.
- 174- 84-Ctgs: Hard light gray medium to fine-grained micaceous sandstone, part with black micaceous shale lenses; black micaceous sandy shale; hard brown claystone.
- 184- 90-Ctgs: Hard light gray medium-grained micaceous sandstone with greenish tinge; hard brown claystone.
- 190- 94-Ctgs: Same.
- 194- 98-Ctgs: Same and brownish gray carbonaceous shale; dark gray sandy micaceous shale.
- 198- 205-Ctgs: Black micaceous, carbonaceous shale and sandy shale and fine-grained sandstone, brown chert; shale with yellowish brown concretions.
- 205- 15-Ctgs: Light gray hard fine-grained micaceous sandstone with dark gray and black micaceous, carbonaceous shale.
- 215- 20-Ctgs: Light gray medium-grained micaceous sandstone; black micaceous shale frag.; loose sand; quartz with crystal faces.
- 220- 26-Ctgs: Light gray medium-grained micaceous sandstone; black micaceous, carbonaceous shale; part of sandstone with asphalt stain; pyritized wood; brown carbonaceous shale. Loose sand, quartz grains showing crystal faces.
- 226- 34-Ctgs: Coal, black micaceous, carbonaceous shale; carbonaceous material.

- 234- 40-Ctgs: Same and sand.
- 240- 45-Ctgs: Light gray medium-grained micaceous sandstone; dark gray to black micaceous, carbonaceous shale; black carbonaceous shale, hard brown sandy claystone.
- 245- 51-Ctgs: Light gray hard fine-grained micaceous sandstone, part with dark micaceous shale lenses; black micaceous, carbonaceous shale; dark brown inclusions in sandstone and shale.
- 251- 55-Ctgs: Light gray hard fine-grained sandstone, part with dark gray shale, lenses, part with reddish brown concretions; black micaceous, carbonaceous shale.
- 255- 58-Ctgs: Light gray hard fine-grained micaceous sandstone; black micaceous carbonaceous shale. Frag. of coal.
- 258- 65-Ctgs: Light gray hard micaceous fine-grained sandstone, black micaceous, carbonaceous shale.
- 264- 80-Ctgs: Same.
- 280- 85-Ctgs: Same with increasing amount of black micaceous shale and sandy shale.
- 285- 92-Ctgs: Black micaceous, carbonaceous shale, hard brown claystone, hard light gray fine-grained micaceous sandstone.
- 292- 98-Ctgs: Black micaceous, carbonaceous shale, part sandy hard dark brown claystone.
- 298- 303-Ctgs: Black micaceous, carbonaceous shale, part showing plant remains; hard brown claystone.
- 303- 10-Ctgs: Same with considerable carbonaceous material; light gray fine-grained sandstone and sandy shale, micaceous.
- 310- 16-Ctgs: Light gray hard fine-grained micaceous sandstone, part with dark micaceous shale lenses, hard dark brown claystone, black micaceous carbonaceous shale.
- 314- 20-Ctgs: Light gray medium-grained micaceous sandstone; black micaceous shale frag.
- 320- 40-Ctgs: Same with light calcareous fine-grained micaceous sandstone.
- 340- 49-Ctgs: Light gray medium-grained loose sand, much of it showing crystal faces; frag. of light brown sandstone and black shale.
- 349- 55-Ctgs: Medium and fine-grained light gray sand and stone, quartz grains partly etched and part with crystal faces; and black micaceous, carbonaceous shale; light gray micaceous sandstone with dark shale lenses.
- 353- 65-Ctgs: Light gray hard fine-grained micaceous sandstone, part with brown inclusions, part with black shale lenses. Carbonaceous material in part.
- 363- 69-Ctgs: Same, and black shale.
- 369- 74-Ctgs: Same.
- 374- 79-Ctgs: Light gray fine-grained sand and sandstone. Much of the quartz has clear crystal faces. Carbonaceous material noted.

- 379- 85-Ctgs: Medium to fine-grained light gray sand with etched and crystal faces.
- 385- 92-Ctgs: Light gray medium-grained micaceous sandstone, with carbonaceous material. Brown claystone.
- 392- 400-Ctgs: Same with slight amount of asphaltic ? residue.
- 400- 07-Ctgs: Same.
- 407- 15-Ctgs: Same with occasional coarse sand grains.
- 415- 20-Ctgs: Same. Green material noted.
- 420- 25-Ctgs: Same; also fine-grained sand. Carbonaceous material noted.
- 425- 30-Ctgs: Black carbonaceous sandy shale; mica noted. Light gray fine-grained sand and sandstone.
- 435- 55-Ctgs: Same.
- 455- 68-Ctgs: Same.
- 468- 75-Ctgs: Same. Lime frag. noted.
- 475- 94-Ctgs: Same.
- 494- 98-Ctgs: Black carbonaceous shale; part sand and part micaceous.
- 498- 502-Ctgs: Dense carbonaceous shale, part micaceous, dark reddish brown frag.
Arenaceous Forams.
- 602- 07-Ctgs: Same and frag. of lime.
Arenaceous Forams.
- 507- 13-Ctgs: Same and light gray sandstone frag.
- 513- 20-Ctgs: Same.
- 520- 25-Ctgs: Light gray medium to fine-grained sand, non-calcareous; mica, black carbonaceous shale frag.
- 525- 40-Ctgs: Light gray medium-grained sand and sandstone, gray fine-grained micaceous carbonaceous sandstone, and gray sandy micaceous, carbonaceous shale. Black shale. Occasional coarse sand grains.
- 540- 45-Ctgs: Light gray medium to coarse, also fine-grained sand. Mica. Green mineral present. Black shale frag.
- 545- 50-Ctgs: Same and light gray fine-grained sand, and black and gray shale.
- 550- 55-Ctgs: Same.
- 555- 60-Ctgs: Coarse to medium-grained etched sand.
- 560- 65-Ctgs: Same. Part of quartz with crystal faces.
- 565- 73-Ctgs: Same.
- 574- 77-Ctgs: Same. Also fine sand.
- 577- 600-Ctgs: Same.
- 600- 05-Ctgs: Very coarse etched sand; also medium to fine-grained sand.
- 605- 10-Ctgs: Same.
- 610- 20-Ctgs: Same with frag. of hard brown claystone; part with fossil impressions.
- 620- 25-Ctgs: Same and gray micaceous shale.
- 625- 33-Ctgs: Same and frag. of gray fine-grained sandstone and sandy micaceous shale.
- 633- 42-Ctgs: Same with more micaceous sandy carbonaceous shale.

- 642- 48-Ctgs: Sand with an increasing amount of gray hard fine-grained sandstone and sandy micaceous shale; part with carbonaceous material.
- 648- 52-Ctgs: Same.
- 652- 58-Ctgs: Same and fine sand.
- 655- 65-Ctgs: Fine-grained sand, black micaceous carbonaceous shale; light gray hard fine-grained sandstone.
- 665- 70-Ctgs: Same.
- 670- 75-Ctgs: Black micaceous shale and sandy shale. Frag. of lime.
- 675- 80-Ctgs: Same.
- 680- 85-Ctgs: Same. Brown limestone frag. with **shell impressions**.
- 685- 93-Ctgs: Same.
- 693- 98-Ctgs: Same. Brown claystone.
- 698- 702-Ctgs: Like preceding and fine sand.
Crinoid stem noted.
Other shell frag.
- 702- 12-Ctgs: Same.
- 712- 20-Ctgs: Gray medium to fine-grained sand and sandstone, part Micaceous. Frag. of black micaceous shale and gray sandy shale. Hard brown claystone frag.
- 722- 28-Ctgs: Same.
- 728- 35-Ctgs: Same with an increasing amount of fine-grained sand.
- 735- 42-Ctgs: Same.
- 735- 44-Ctgs: Coarse to medium-grained etched sand. Part of sand a milky quartz, part with crystal faces. Carbonaceous material noted.
- 742- 50-Ctgs: Gray medium to fine-grained hard micaceous, carbonaceous sandstone; hard brown claystone; frag. of gray sandy micaceous, carbonaceous black shale.
- 750- 75-Ctgs: Same.
- 775- 80-Ctgs: Gray fine and medium-grained sand.
- 780- 92-Ctgs: Gray medium-grained micaceous, carbonaceous sand and sandstone; hard brown claystone. Black shale and gray sandy carbonaceous shale.
- 790- 803-Ctgs: Medium-grained clear etched quartz grains. Mica.
- 805- 09-Ctgs: Light gray hard medium and fine-grained micaceous sandstone; small amount of light brown fine-grained sandstone; hard brown claystone and sandy micaceous claystone.
- 809- 30-Ctgs: Same.
- 830- 35-Ctgs: Light gray hard fine-grained micaceous sandstone; dark gray to black micaceous, carbonaceous sandy shale.
- 835- 45-Ctgs: Same, with medium and coarse-grained sand and sandstone.
- 845- 50-Ctgs: Gray medium-grained sand and sandstone, occasional coarse grains, brown medium-grained slightly calcareous sandstone.
- 850- 60-Ctgs: Same.
- 860- 65-Ctgs: Gray medium to fine-grained sand.

- 865- 70-Ctgs: Same. Occasional coarse grains.
- 870- 75-Ctgs: Coarse to medium-grained gray sand and sandstone, part quartz milky, frag. of brown sandstone and gray shale. Fine sand.
- 883- 93-Ctgs: Same with mica.
- 893- 910-Ctgs: Same.
- 910- 15-Ctgs: Medium to coarse-grained sand, etched and angular grains. Also fine sand.
- 915- 20-Ctgs: Same.
- 920- 27-Ctgs: Same and frag. of brown sandstone.
- 927- 35-Ctgs: Very coarse sand, part milky.
- 944- 50-Ctgs: Same with brown sandstone and claystone. Carbonaceous material. Mica.
- 950- 62-Ctgs: Same.
- 962- 69-Ctgs: Medium-grained sand with occasional coarse grains; black micaceous shale frag. Carbonaceous material noted.
- 969- 75-Ctgs: Same with fine-grained light gray sandstone; brown sandstone frag., brown claystone. Pyrite.
- 975- 78-Ctgs: Medium to coarse sand, light gray hard fine-grained sandstone, brown sandstone, frag. of black micaceous shale.
- 978- 81-Ctgs: Medium to fine-grained sand, frag. of gray and black shale.
- 981- 86-Ctgs: Same and light gray hard fine-grained sandstone.
- 986- 94-Ctgs: Same and greenish gray hard fine-grained micaceous sandstone. Pyrite.
- 994- 97-Ctgs: Same.
- 997-1002-Ctgs: Same and gray sandy shale and micaceous shale. Carbonaceous material.
- 1002- 06-Ctgs: Same.
- 1006- 12-Ctgs: Same and medium-grained sandstone. Black micaceous shale.
- 1012- 15-Ctgs: Same.
- 1015- 20-Ctgs: Same.
- 1020- 25-Ctgs: Light gray fine-grained sand and sandstone with mica.
- 1025- 35-Ctgs: Same.
- 1035- 45-Ctgs: Same with carbonaceous material.
- 1040- 47-Ctgs: Gray medium-grained to fine sand; black carbonaceous shale.
- 1045- 55-Ctgs: Light gray hard fine-grained micaceous sandstone, part with carbonaceous shale lenses; hard brown claystone.
- 1055- 65-Ctgs: Same.
- 1064- 70-Ctgs: Same and brown micaceous sandstone.
- 1070- 75-Ctgs: Same and carbonaceous material.
- 1075- 82-Ctgs: Same with medium-grained sand and occasional coarse grains.
- 1082- 89-Ctgs: Coal and medium to fine-grained sand; and medium gray hard very fine-grained sand; dark gray micaceous shale.
- 1088- 89-Ctgs: Medium-grained to coarse sand; medium gray hard fine-grained micaceous sandstone and shale; brown claystone.

- 1095-1100-Ctgs: Medium-grained angular and etched sand; occasional coarse grains.
- 1100- 09-Ctgs: Medium-grained to coarse angular and etched sand and sandstone.
- 1109- 18-Ctgs: Same.
- 1118- 25-Ctgs: Same and frag. of coal noted.
- 1125- 34-Ctgs: Medium-grained sand, small amount of coal and carbonaceous shale.
- 1134- 42-Ctgs: Medium to fine-grained sand; coal frag., brown claystone frag.; gray sandy clay frag.
- 1142- 45-Ctgs: Same. Occasional coarse quartz grains.
- 1145- 50-Ctgs: Fine-grained gray sand.
- 1150- 55-Ctgs: Light gray medium-grained sand and sandstone, brown sandstone frag.
- 1155- 60-Ctgs: Fine-grained sand.
- 1160- 65-Ctgs: Light gray medium-grained sand and sandstone with small amount of mica. Quartz with etched and crystal faces.
- 1165- 70-Ctgs: Same.
- 1170- 78-Ctgs: Light gray hard fine-grained sandstone, frag. of gray sandy carbonaceous shale; dark brown claystone and carbonaceous material, occasional coarse sand grains. Mica noted.
- 1178- 88-Ctgs: Same.
- 1188- 92-Ctgs: Same.
- 1192-1200-Ctgs: Light gray fine-grained sand.
- 1200- 07-Ctgs: Same and black micaceous shale frag.; frag. of light gray and brown hard fine-grained sandstone. Mica noted.
- 1207- 11-Ctgs: Same.
- 1211- 14-Ctgs: Same with increasing amount of shale and hard sandstone.
- 1214- 20-Ctgs: Same.
- 1220- 23-Ctgs: Coal and black carbonaceous shale and gray hard fine-grained sandstone and gray micaceous, carbonaceous sandy shale.
- 1223- 30-Ctgs: Black carbonaceous shale, light greenish gray hard micaceous sandstone, an abundant of small brown concretions. Pyrite noted.
- 1230- 40-Ctgs: Light gray medium-grained micaceous sandstone; carbonaceous material and black carbonaceous shale. A few brown concretions noted.
- 1247- 54-Ctgs: Same.
- 1254- 62-Ctgs: Medium-grained etched and angular clear sand, part with crystal faces. Occasional coarse grains; also fine sand.
- 1262- 68-Ctgs: Same.
- 1268- 74-Ctgs: Very coarse-grained sand; medium-grained sand.
- 1274- 79-Ctgs: Same.
- 1279- 84-Ctgs: Same with fine sand.
- 1284- 94-Ctgs: Same and light gray hard fine-grained micaceous sandstone, brown sandy claystone.

- 1294-1301-Ctgs: Hard greenish gray fine-grained micaceous sandstone, gray micaceous sandy shale. Pyrite. Frag. of brown sandstone.
- 1301- 07-Ctgs: Same.
- 1307- 12-Ctgs: Same with occasional coarse quartz grains.
- 1312- 19-Ctgs: Hard light gray fine-grained sandstone with mica and carbonaceous material; frag. of black micaceous carbonaceous shale and sandy shale; occasional coarse sand grains; part of sandstone slightly calcareous.
- 1319- 22-Ctgs: Same.
- 1323- 32-Ctgs: Hard fine-grained gray micaceous sandstone, medium-grained sand and brown sandy claystone. Limestone frag.
Bryozoa frag.
Crinoid stem.
- 1332- 38-Ctgs: Light gray fine-grained sand and sandstone; part with mica; frag. of lime.
- 1338- 44-Ctgs: Light gray fine-grained sand. Mica present.
- 1344- 62-Ctgs: Same.
- 1362- 70-Ctgs: Medium-grained sand and sandstone with buff-colored limestone frag. Part of sandstone with small brown concretions.
Worm Crinoid stems.

Pennington

- 1370- 76-Ctgs: Medium-grained sand, buff-colored lime with small brown concretions.
Crinoid stems.
- 1376- 87-Ctgs: Dark reddish brown shale; brown concretions; sand and buff-colored limestone.
- 1387- 90-Ctgs: Same.
- 1390- 95-Ctgs: Same and brown shale and fine sand.
- 1395-1400-Ctgs: Same and gray shale.
- 1400- 07-Ctgs: Same and brown sandy claystone. Greenish gray shale.
Crinoid stems.
- 1407- 13-Ctgs: Same and green shale.
- 1413- 19-Ctgs: Same and more green shale. Black carbonaceous shale.
- 1419- 24-Ctgs: Same and pyrite. Gray carbonaceous shale.
- 1425- 30-Ctgs: Light gray lime, oolitic limestone. Carbonaceous material.
Gray shale from above ?
Crinoid stems.

Bangor

- 1430- 35-Ctgs: Same and cream-colored limestone.
- 1435- 40-Ctgs: Same.
- 1440- 48-Ctgs: Cream-colored and gray crystalline limestone, green sandy clay frag., green shale.
Crinoid stems noted.
- 1446- 50-Ctgs: Light gray crystalline limestone, fossiliferous. Green shale lenses noted.

- 1447- 52-Ctgs: Same.
Crinoid stems.
- 1450- 60-Ctgs: Same.
- 1460- 64-Ctgs: Same and milky chert, and greenish gray lime.
- 1464- 70-Ctgs: Gray lime and greenish gray crystalline limestone; milky chert.
- 1474- 81-Ctgs: Same.
- 1481- 85-Ctgs: Brownish gray limestone and greenish gray limestone with pyrite.
- 1485- 87-Ctgs: Brown chert and gray limestone frag.
- 1487- 92-Ctgs: Same with more gray limestone and brown limestone.
- 1492- 95-Ctgs: Same.
Crinoid stems.
- 1495- 99-Ctgs: Light gray limestone.
- 1499-1503-Ctgs: Same and green shale.
- 1503- 05-Ctgs: Same and brown chert.
Crinoid stems.
- 1505- 08-Ctgs: Same and green shale.
- 1508- 13-Ctgs: Same and pyrite.
- 1513- 15-Ctgs: Same and oolitic limestone.
- 1515- 18-Ctgs: Same.
- 1518- 25-Ctgs: Same.
- 1525- 33-Ctgs: Same and green clay and brown limestone.
Crinoid stems.
- 1533- 36-Ctgs: Same and greenish gray shale and green and red shale.
- 1536- 43-Ctgs: Oolitic and light gray crystalline limestone; light brown limestone.
- 1543- 55-Ctgs: Same.
Crinoid stems.
- 1555- 60-Ctgs: Gray granular limestone, brown limestone.
Crinoid stems.
- 1560- 65-Ctgs: Gray very fossiliferous limestone.
Crinoid stems.
- 1570- 73-Ctgs: Same and brown limestone. Green shale.
Large Crinoid stems and others.
Bryozoa.
- 1573- 77-Ctgs: Same and **Bryozoa** in green shale.
- 1577- 82-Ctgs: Same.
Bryozoa.
Large Crinoid stems in green shale matrix.
Other Crinoid stems.
Fenestella Bryozoa in green shale.
- 1582- 88-Ctgs: Same with more green fossiliferous shale. Dark gray shale frag.
- 1588- 92-Ctgs: Brown and gray limestone, fossiliferous.
- 1592-1601-Ctgs: Same. **Crinoid stems** and frag of green fossiliferous.
- 1601- 06-Ctgs: Gray and brown fossiliferous limestone. Green fossiliferous shale.
Crinoid stems.

- Fenestella Bryozoa in green shale matrix.
Shell frag.
Productus spines ?
- 1615- 18-Ctgs: Same and oolitic limestone.
- 1621- 25-Ctgs: Brown and oolitic limestone, frag. of green shale and sandy shale.
Bryozoa.
Crinoid stems.
- 1625- 31-Ctgs: Same and brown and gray crystalline limestone.
- 1631- 36-Ctgs: Same.
- 1636- 49-Ctgs: Same and brown granular limestone.
- 1641- 44-Ctgs: Same.
- 1644- 48-Ctgs: Brown crystalline limestone with abundant **Crinoid stems**.
- 1653- 58-Ctgs: Brown granular fossiliferous limestone with streaks of green shale; pyrite; dark gray carbonaceous shale frag.
- 1658- 63-Ctgs: Same.
- 1663- 67-Ctgs: Same and frag. of black carbonaceous shale.
- 1667- 71-Ctgs: Same.
- 1671- 75-Ctgs: Dark brown limestone with dark inclusions.
- 1675- 82-Ctgs: Same and brown limestone and milky chert.
- 1682- 91-Ctgs: Brown crystalline and granular limestone; green fossiliferous shale. **Bryozoa** and brown chert noted.
Crinoid stems.
- 1691- 95-Ctgs: Dark brown granular and crystalline fossiliferous limestone.
Crinoid stems.
- 1695-1700-Ctgs: Same.
Crinoid stems.
- 1700- 03-Ctgs: Same. Chert noted.
- 1711- 20-Ctgs: Same.
- 1720- 23-Ctgs: Same. Green shale frag.
Shell frag.
- 1725- 30-Ctgs: Dark brown granular and crystalline limestone. Brown chert noted.
- 1730- 34-Ctgs: Same.
- 1734- 39-Ctgs: Same, fossiliferous. Light gray limestone.
Bryozoa.
- 1739- 48-Ctgs: Same.
- 1751- 54-Ctgs: Same and green shale; frag. of black carbonaceous shale.
- 1756-Ctgs: Same.
Crinoid stems.
- 1760- 64-Ctgs: Brown crystalline and granular limestone.
Bryozoa.
- 1765- 71-Ctgs: Same.
- 1770- 80-Ctgs: Same. Brown chert noted.
- 1784- 86-Ctgs: Same.
- 1788- 93-Ctgs: Dark brown crystalline and granular limestone. Chert and light brown limestone.

- 1793- 96-Ctgs: Same with considerable brown chert and fossiliferous greenish gray shale frag.
Bryozoa and Crinoid stem frag.
- 1796- 98-Ctgs: Same.
- 1795-1801-Ctgs: Same.
- 1801- 04-Ctgs: Same and greenish gray shale frag. carrying fossils.
- 1804- 09-Ctgs: Same and light brown fossiliferous limestone. Fossils noted in dark brown limestone.
- 1809- 10-Ctgs: Same with large proportion of brown chert.
- 1810- 13-Ctgs: Dark brown limestone, brown chert, frag. of green shale with **Fenestella Bryozoa**.
- 1813- 15-Ctgs: Same.
- 1815- 19-Ctgs: Same with medium gray fossiliferous shale.
Ostracods.
Small pelecypods.
- 1819- 22-Ctgs: Same.
Euphemus sp.
Ostracods.
Bryozoa.
- 1822- 24-Ctgs: Dark brown granular limestone and light brown limestone.
- 1824- 28-Ctgs: Same. Pyrite. Gray shale carrying carbonaceous material.
Small gastropods and pelecypods.
Ostracods.
Some replacement of shells by pyrite.
Euphemus partly pyritized.
- 1828- 30-Ctgs: Gray shale. Pyrite. Brown limestone frag.
Fossils abundant.
- 1830- 33-Ctgs: Same.
- 1833- 35-Ctgs: Same and hard reddish brown claystone.
Large crinoid stems.
- 1835- 37-Ctgs: Same. Pyrite. **Endothyra** and **crinoid** (pentagonal) **stems**, replaced by black substance, phosphatic ? Phosphatic ? nodules contained in hard dark brown non-calcareous matrix.
Other Fossils.
Frag. of ammonite ?
Ostracods.
- 1837- 39-Ctgs: Dark gray fossiliferous shale; brown fossiliferous limestone, hard brown claystone. Black phosphatic ? frag.
Crinoid stems pentagonal in shape.
Other crinoid stems.
Euphemus sp.
Small pelecypods and other shells partially pyritized.
- 1839- 43-Ctgs: Same.
- 1843- 49-Ctgs: Brown lime and dark gray shale.
- 1848- 55-Ctgs: Brown crystalline fossiliferous limestone with some dark gray shale.
Crinoid stems.

- 1855- 61-Ctgs: Same.
Bryozoa.
- 1861- 66-Ctgs: Brown granular limestone.
- 1866- 70-Ctgs: Brown granular and crystalline limestone; brown gray fossiliferous shale.
- 1870- 74-Ctgs: Same.
Crinoid stems.
- 1874-1910-Ctgs: Same.
- 1910- 16-Ctgs: Same and light gray and very dark shaly lime.
- 1916- 25-Ctgs: Very dark brown shaly limestone, fossiliferous in part.
- 1925- 30-Ctgs: Light gray fine-grained closely cemented sandstone, dark gray to black micaceous, carbonaceous sandy shale; hard brown claystone; pyrite.

Hartselle

- 1930- 35-Ctgs: A small amount of sand, frag. of light gray fine-grained sandstone, dark brownish gray shaly lime; frag. of brown limestone.
Crinoid stems.
- 1935- 42-Ctgs: Medium to fine-grained closely cemented brownish gray sandstone, brownish black shale.
Crinoid stems noted.
- 1942- 49-Ctgs: Same. Mica present in sandstone.
- 1947- 52-Ctgs: Same. Sandstone with mica and carbonaceous material.
- 1952- 63-Ctgs: Same.
- 1963- 75-Ctgs: Light gray and brown fine-grained closely cemented sandstone with mica. Pyrite.
- 1975- 85-Ctgs: Dark gray sandy micaceous, carbonaceous shale and gray fine-grained sandstone. Pyrite. Brown claystone.
Crinoid stems noted.
- 1997-2007-Ctgs: Light gray fine-grained sandstone. Frag. of dark gray sandy carbonaceous shale.
- 2007- 15-Ctgs: Same. Sandstone carrying mica.
- 2025- 30-Ctgs: Brownish black shale; frag. of brown sandy limestone.
- 2030- 40-Ctgs: Dark gray to black sandy micaceous, carbonaceous shale, gray fine-grained closely cemented sandstone, hard dark brown claystone.
- 2040- 50-Ctgs: Same. Pyrite. **Small pelecypod** with sand matrix.
- 2050- 58-Ctgs: Same and hard fine-grained micaceous, carbonaceous sandstone. Pyrite. Dark gray fossiliferous.
- 2058- 68-Ctgs: Same and black micaceous carbonaceous shale. Pyrite.
- 2068- 80-Ctgs: Dark gray micaceous, carbonaceous shale; light gray hard fine-grained micaceous, carbonaceous sandstone; hard brown claystone.
- 2080- 90-Ctgs: Same with increasing amount of sandstone.
- 2090-2100-Ctgs: Black micaceous, carbonaceous shale. Hard brown claystone. Some light gray fine-grained sandstone.
- 2100- 10-Ctgs: Black and brownish black micaceous, carbonaceous shale. Hard dark brown claystone.

- 2110- 15-Ctgs: Same and gray sandy shale.
Shell frag.

Gasper ?

- 2115- 22-Ctgs: Same and light gray very hard sandstone frag. Pyrite.
Ostracods.
2122- 34-Ctgs: Same.
2134- 41-Ctgs: Same. Brownish black carbonaceous shale, fossiliferous.
Plant fossils noted.
2141- 52-Ctgs: Same.
2152- 58-Ctgs: Same. Pyrite.
2158- 69-Ctgs: Same. **Shell frag.** noted. Black marl frag.
2169- 73-Ctgs: Dark grayish brown crystalline limestone with **crinoid stems** and other fossils. Black shale from above.
2173- 76-Ctgs: Same. Part of limestone with greenish tinge. Pyrite.
Sandy limestone.
Fenestella Bryozoa.
1276- 80-Ctgs: Fine-grained sandstone. Greenish gray sandy limestone.
Green shale. Limestone and shale with brown and black concretions.
Rounded Bryozoa frag.
2180- 84-Ctgs: Same. Black fossiliferous shale from above.
2184- 89-Ctgs: Same. Limestone with green streaks.
2189- 93-Ctgs: Gray hard cavernous limestone with brown stain. Black shale from above.
Bryozoa.
Fenestella Bryozoa.

Tuscumbia

- 2193- 98-Ctgs: Gray cavernous limestone with asphaltic residue.
Fenestella Bryozoa.
2198-2202-Ctgs: Light gray crystalline limestone. Chert frag.
2202- 07-Ctgs: Same.
2207- 12-Ctgs: Light brown crystalline limestone and gray limestone.
Black shale from above.
2212- 17-Ctgs: Same.
2217- 23-Ctgs: Gray dense and crystalline limestone.
2223- 38-Ctgs: Same and material from above.
2228- 30-Ctgs: Same.
2230- 35-Ctgs: Light gray dense limestone, part fossiliferous. Bluish milky chert.
2235- 40-Cavings: Dark brownish black shale; hard brown claystone.
2240- 43-Ctgs: Light gray crystalline limestone; dark brownish gray shale from above.
2243- 46-Ctgs: Light gray limestone; black and gray shale from above.
2246- 47-Ctgs: Light gray limestone frag.; black micaceous, carbonaceous shale.
Shell frag.
2247- 48-Ctgs: Same.

- 2248- 49-Ctgs: Light gray and white crystalline limestone, part fossiliferous.
2249- 54-Ctgs: Light gray crystalline limestone; light gray chert.
2254- 56-Ctgs: Same.
2256- 61-Ctgs: Same with more chert.
2261- 69-Ctgs: Same. Part of limestone and chert streaked with brown. Small amount of brown crystalline limestone.
2269-2303-Ctgs: Same.
2303- 09-Ctgs: Same with increasing amount of brown limestone; white chert.
2309- 14-Ctgs: Same.
2314- 16-Ctgs: Same and black shale frag. from above ?
2316- 19-Ctgs: Medium brown crystalline limestone; light gray limestone.
2319- 22-Ctgs: Brown and light gray limestone and chert.
2322- 26-Ctgs: Same.
2326- 32-Ctgs: Same with increasing amount of chert.
2332- 35-Ctgs: Light gray limestone and chert; brownish limestone.
2335- 52-Ctgs: Same.
2352- 57-Ctgs: Brown streaks crystalline limestone.
2357- 59-Ctgs: Same and light gray limestone.
2359- 64-Ctgs: Same.
2364- 57-Ctgs: Brown chert and small amount of limestone.

Fort Payne

- 2367- 73-Ctgs: Same.
2373- 76-Ctgs: Medium brown crystalline limestone; light gray chert noted.
2376- 78-Ctgs: Dark brown chert and cherty limestone and medium brown dense limestone.
2378- 80-Ctgs: Same and light gray chert.
2380- 81-Ctgs: Medium brown limestone; light gray chert; brown chert.
2381- 83-Ctgs: Same.
2383- 85-Ctgs: More brown limestone and less chert.
2385- 87-Ctgs: Same.
2387- 89-Ctgs: Brown chert and limestone with an abundance of glauconite.
2389- 92-Ctgs: Same and brown granular limestone.
2393- 95-Ctgs: Same and grayish brown granular limestone.
2395- 97-Ctgs: Brown chert and brown granular limestone.
2397-2400-Ctgs: Brown chert and brown dense limestone.
2400- 02-Ctgs: Same.
2402- 04-Ctgs: Dark brown limestone and chert.
2404- 06-Ctgs: Brown chert and limestone with glauconite.
2406- 08-Ctgs: Light gray limestone, glauconitic chert and limestone; gray and greenish gray shale. Pyrite.

Maury Shale

- 2408- 10-Ctgs: Same with more gray and green shale.
2410- 14-Ctgs: Black shale with spores; quartzitic sand.

Chattanooga Shale

- 2414- 15-Ctgs: Same.
 2415- 17-Ctgs: Same and sandy shale and fine-grained sandstone.
 2417- 24-Ctgs: Same. Black shale with spores. Pyrite.
 2424- 32-Ctgs: Black shale and quartzitic sandstone. Pyrite. Black shale with spores.
 2432- 35-Ctgs: Black shale and quartzitic sandstone. Light gray crystalline limestone.

Silurian

- 2435- 38-Ctgs: Same and cherty limestone.
 2437- 40-Ctgs: Same.
 Crinoid stems.
 2440- 43-Ctgs: Light greenish gray limestone and cherty limestone.
 Crinoid stems.
 2443- 48-Ctgs: Same. Part with glauconite.
 2448- 53-Ctgs: Same. Pyrite in limestone.
 2453- 54-Ctgs: Same.
 Crinoid stems.
 2454- 59-Ctgs: Greenish crystalline and shaly limestone; limestone carrying some glauconite.
 Crinoid stems.
 2459- 64-Ctgs: Same, with more glauconite. Limestone with **crinoid stems**.
 2464- 69-Ctgs: Same.
 Crinoid stems abundant.
 2469- 74-Ctgs: Greenish gray fossiliferous limestone and shale. Glauconite.
 Crinoid stems.
 2474- 78-Ctgs: Same and light gray crystalline limestone. Chert noted.
 2478- 83-Ctgs: Same and yellowish green limestone. Dark red limestone and shale noted.
 2483- 86-Ctgs: Same.
 2486- 90-Ctgs: Same and yellowish gray limestone.
 2490- 93-Ctgs: Same and green shaly lime with glauconite and pyrite.
 Crinoid stems.
 2493- 98-Ctgs: Same and dull purple glauconitic shaly lime.
 2496-2503-Ctgs: Same and small amount of very green shale and limestone frag.
 2503- 09-Ctgs: Same.
 2509- 15-Ctgs: Same with more green shale.
 Crinoid stems.
 2515- 20-Ctgs: Same.
 Brachiopod frag.
 2520- 28-Ctgs: Dark green shale and shaly lime; light gray crystalline limestone.
 Crinoid stems.
 2528- 34-Ctgs: Same.
 Brachiopods.
 2534- 39-Ctgs: Same.

- 2539- 45-Ctgs: Green shale and shaly lime, fossiliferous.
Crinoid stems.
Brachiopods.
- 2545- 50-Ctgs: Same.
- 2550- 56-Ctgs: Dark green shale and shaly lime with **crinoid stems** and other fossils; greenish gray limestone.
- 2556- 63-Ctgs: Same.
Brachiopod.
- 2563- 70-Ctgs: Same and dull purplish or brownish shale.
- 2470- 78-Ctgs: Same and purple and green shale, fossiliferous.
- 2578- 83-Ctgs: Purple shaly lime, green shale and limestone.
Crinoid stems.
- 2583- 88-Ctgs: Same, with dark red shale and shaly lime.
- 2588- 95-Ctgs: Same with red and pink limestone.
- 2595- 97-Ctgs: Same with less red limestone and more pink tinged limestone.
- 2597-2600-Ctgs: Same with more dark red shale and limestone.
- 2600- 02-Ctgs: Same.
Crinoid stems.
- 2602- 06-Ctgs: Same and red and green limestone, fossiliferous.
- 2606- 10-Ctgs: Purple and green shale and limestone, fossiliferous.
Crinoid stems abundant.
Ostracods.
Brachiopods.
- 2610- 17-Ctgs: Purple shale and limestone and yellowish limestone, fossiliferous.
Crinoid stems.
- 2617- 22-Ctgs: Same.
- 2622- 28-Ctgs: Same, fossiliferous.
- 2628- 36-Ctgs: Same. Several kinds of **crinoid stems** and **basal plates** ?
- 2636- 42-Ctgs: Same.
Ostracods.
Small Brachiopods.
- 2642- 50-Ctgs: Same and light green limestone.
- 2650- 67-Ctgs: Same.
Brachiopod and coral frag.
- 2657- 66-Ctgs: Same.
- 2666- 70-Ctgs: Red, purple, pink and light gray limestone; purple shale.
- 2670- 74-Ctgs: Same.
- 2674- 76-Ctgs: Same and light green shale and limestone. **Crinoid stems** embedded in purple shaly lime.
- 2676- 93-Ctgs: Same.
- 2693- 97-Ctgs: Same, fossiliferous.
- 2697-2703-Ctgs: Purple lime and shale, fossiliferous; green and gray limestone.
Brachiopods.
- 2703- 08-Ctgs: Same and dark red fossiliferous limestone.
- 2708- 10-Ctgs: Same and pink limestone.
Brachiopods.

- 2714- 20-Ctgs: Same with increasing amount of red and pink crystalline limestone.
Brachiopods.
- 2720- 25-Ctgs: Same.
- 2725- 33-Ctgs: Same with increasing amount of purple shale and fossiliferous limestone.
- 2733- 38-Ctgs: Purple and fossiliferous limestone.
- 2738- 45-Ctgs: Purple shale and limestone, fossiliferous. Oolitic material.
Brachiopods.
- 2745- 59-Ctgs: Purple shaly limestone, very fossiliferous; yellowish and green limestone and shale.
Ostracods.
- 2749- 55-Ctgs: Purple shale and limestone, red limestone, green and gray and limestone.
Coral.
Brachiopod frag.
- 2755- 57-Ctgs: Dark red shale and lime; green and gray shale and limestone.
- 2757- 65-Ctgs: Same with increasing amount of green and gray shale and limestone.
- 2765- 73-Ctgs: Same.
- 2773- 79-Ctgs: Green and light gray limestone and shale; dark gray limestone with phosphatic material.

Ordovician—Trenton

- 2779- 85-Ctgs: Dark gray to black phosphatic limestone and shale; light gray limestone present.
Corals.
- 2785- 91-Ctgs: Same, part fossiliferous.
- 2791- 94-Ctgs: Dark greenish gray granular limestone, part phosphatic; greenish gray crystalline phosphatic limestone, fossiliferous, dark gray shale frag.
- 2794- 97-Ctgs: Same.
- 2797-2801-Ctgs: Dark greenish gray phosphatic limestone and shaly limestone, fossiliferous, in part; light gray phosphatic limestone.

Ordovician

- 2801- 08-Ctgs: Same.
- 2808- 10-Ctgs: Same and dark gray shale.
- 2810- 17-Ctgs: Black and gray phosphatic lime and shale.
- 2817- 25-Ctgs: Same.
- 2825- 28-Ctgs: Dark greenish gray limestone, part phosphatic.
- 2828- 30-Ctgs: Same and light gray limestone.
- 2830- 32-Ctgs: Dark gray phosphatic limestone; light gray and brown crystalline limestone; brown chert noted.
- 2833- 34-Ctgs: Same with black shale. Brown chert.
- 2834- 36-Ctgs: Same.
- 2838- 40-Ctgs: Dark gray phosphatic limestone, light gray phosphatic, fossiliferous limestone.

- 2840- 43-Ctgs: Same.
2843- 46-Ctgs: Medium gray limestone.
2846- 48-Ctgs: Dark and medium greenish gray granular phosphatic limestone and shaly lime.
2848- 58-Ctgs: Same.
2858- 64-Ctgs: Medium to dark greenish gray slightly calcareous shale and limestone, part phosphatic.
2864- 70-Ctgs: Same.
2870- 71-Ctgs: Same and black shale and lime.
Shell frag.
2871- 74-Ctgs: Medium to dark gray limestone, part fossiliferous; black shale and shaly lime.
2874- 77-Ctgs: Same and dark brown crystalline limestone.
2877- 80-Ctgs: Same.
2880- 82-Ctgs: Black and dark gray limestone, black shaly lime, brown and light gray crystalline limestone, fossiliferous.
2882- 87-Ctgs: Same.
2887- 90-Ctgs: Black and gray phosphatic limestone; brown crystalline limestone.
2890- 93-Ctgs: Black and dark gray crystalline and granular phosphatic limestone; light gray and brown limestone, part phosphatic.
2893-2909-Ctgs: Same.
2911- 13-Ctgs: Dark gray to black crystalline limestone and shaly lime; light and brown crystalline limestone, part phosphatic.
2913- 23-Ctgs: Same.
2923- 25-Ctgs: Same and black shale.
2925- 29-Ctgs: Same.
2927- 32-Ctgs: Medium gray crystalline limestone; black and brown granular limestone; black shaly lime.
2932- 36-Ctgs: Same.
2936- 40-Ctgs: Same.
2940- 42-Ctgs: Dark and light gray finely crystalline limestone, brown granular limestone.
2942- 45-Ctgs: Same.
2945- 48-Ctgs: Same and brown crystalline limestone. Black shaly lime.
2948- 50-Ctgs: Light gray and brownish gray crystalline limestone; dark gray granular limestone.
2950- 59-Ctgs: Same.
2959- 63-Ctgs: Same with black shaly lime and more brown crystalline limestone.
2963- 66-Ctgs: Light and brown crystalline and limestone, black limestone and shaly lime.
2966- 93-Ctgs: Same.
2993-3004-Ctgs: Black limestone, shaly lime, brown and light gray crystalline limestone.
3004- 08-Ctgs: Same.
3008- 11-Ctgs: Dark gray lime and black shale. Limestone carrying pyrite. Frag. of brown limestone.

- 3011- 15-Ctgs: Same, with more brown limestone and light and medium gray limestone.
- 3015- 23-Ctgs: Same.
- 3023- 27-Ctgs: Black and light gray phosphatic limestone, brown crystalline limestone; black shaly lime.
- 3027- 30-Ctgs: Same with an increasing amount of light brown crystalline limestone.
- 3030- 33-Ctgs: Same. Brown limestone, fossiliferous in part.
- 3033- 36-Ctgs: Light brown crystalline limestone. Brown chert noted. Fossil impressions noted.
- 3036- 38-Ctgs: Same.
- 3038- 40-Ctgs: Same with increasing amount of brown chert.
- 3040- 41-Ctgs: Same.
- 3041- 43-Ctgs: Light brown limestone and chert. Limestone fossiliferous.
- 3043- 45-Ctgs: Same.
- 3045- 47-Ctgs: Brown crystalline limestone, fossiliferous, and chert. Small dark inclusions in limestone and chert.
- 3047- 49-Ctgs: Same, with increasing amount of chert.
- 3049- 51-Ctgs: Same, and frag. of soft light green clay, bentonitic ? with pyrite.

(This bentonitic ? clay horizon may be the same as that occurring in the Jackson #1 well, at 1623'-1631'. Location for Jackson #1, Sec. 30—T 7 S—R 6 W, Lawrence County, Alabama.)

- 3051- 55-Ctgs: Same with less chert.
- 3055- 58-Ctgs: Brown crystalline limestone, brownish black shale.
- 3058- 60-Ctgs: Same, fossiliferous.
- 3060- 62-Ctgs: Brown crystalline limestone and chert; light greenish gray soft clay, bentonitic ? brownish gray shale. Brown limestone, fossiliferous.
- 3062- 71-Ctgs: Same.
- 3071- 74-Ctgs: Brown crystalline limestone.
- 3074- 78-Ctgs: Same.
- 3078- 80-Ctgs: Same and brown dense limestone.
- 3083- 86-Ctgs: Light and dark brown crystalline limestone and chert.
- 3086- 96-Ctgs: Same.
- 3096- 99-Ctgs: Same and brownish black limestone.
- 3099-3101-Ctgs: Brown crystalline limestone and chert.
- 3101- 03-Ctgs: Same.
- 3103- 05-Ctgs: Brown crystalline limestone.
- 3105- 15-Ctgs: Same.
- 3115- 17-Ctgs: Same, part with dark inclusions.
- 3117- 23-Ctgs: Same.
- 3123- 26-Ctgs: Same and brown shaly lime.
- 3126- 32-Ctgs: Same.
- 3132- 36-Ctgs: Same, fossiliferous.
- 3136- 49-Ctgs: Same.
- 3149- 54-Ctgs: Brown crystalline limestone, fossiliferous. Pyrite.
- 3154- 57-Ctgs: Same and brownish gray soft lime.
- 3157- 64-Ctgs: Same.

- 3164- 69-Ctgs: Same and light gray fossiliferous limestone.
3169- 73-Ctgs: Same and dark brown limestone.
Shell frag.
3173- 75-Ctgs: Same.
3175- 77-Ctgs: Light brown fossiliferous limestone.
3177- 80-Ctgs: Same.
3180- 83-Ctgs: Same and light brown limestone.
3183- 85-Ctgs: Same and brown chert.
3185- 86-Ctgs: Brown chert and brown granular limestone.
3186- 88-Ctgs: Same and brownish black granular limestone.
3188- 91-Ctgs: Same and buff-colored limestone.
3191- 94-Ctgs: Same. Part of limestone very dark brown.
3194- 97-Ctgs: Brown granular and dense limestone and brown chert and brownish black shale.

3197- 99-Ctgs: Same and dark brown granular limestone.
3199-3201-Ctgs: Same.
3201- 03-Ctgs: Same.
Ostracods.
3203- 06-Ctgs: Same.
3206- 09-Ctgs: Light brown dense limestone, light and dark brown granular limestone.

3209- 14-Ctgs: Same.
3214- 18-Ctgs: Same and brown dense limestone.
3218- 22-Ctgs: Grayish brown dense limestone, brown crystalline limestone.
3222- 30-Ctgs: Same.
3230- 34-Ctgs: Grayish brown dense limestone, brown crystalline limestone.

3234- 37-Ctgs: Same and black shale.
3237- 40-Ctgs: Same.
3240- 44-Ctgs: Same and black shale.
3244- 50-Ctgs: Same and dull gray dense limestone.
3250- 53-Ctgs: Same.
3253- 57-Ctgs: Dull gray dense limestone, black shale frag.
3257- 60-Ctgs: Same.
3260- 62-Ctgs: Same.
3262- 65-Ctgs: Light dull gray dense limestone.
3265- 68-Ctgs: Same and darker gray granular and shaly lime.
3268- 71-Ctgs: Medium brown dense limestone.
3271- 73-Ctgs: Same.
3273- 76-Ctgs: Same and dull gray dense limestone; dark brown granular limestone.

3276- 80-Ctgs: Same.
3280- 83-Ctgs: Bluish gray dense limestone with **Ostracods**; brown limestone.
3283- 86-Ctgs: Light and medium greenish gray and gray dense limestone.
3286- 88-Ctgs: Same.
3288- 90-Ctgs: Light greenish gray dense limestone.

3290-	91-Ctgs:	Same and granular limestone; light brown limestone.
3291-	93-Ctgs:	Same.
3293-	96-Ctgs:	Medium gray and brown dense limestone.
3296-	98-Ctgs:	Same.
3298-3300-	Ctgs:	Medium gray and brownish gray dense and granular limestone.
3300-	03-Ctgs:	Same and bluish gray limestone.
3303-	06-Ctgs:	Same.
3306-	10-Ctgs:	Brown granular and dense limestone and light bluish gray limestone.
3310-	13-Ctgs:	Light greenish gray granular limestone; light and dark brown granular limestone.
3313-	16-Ctgs:	Same.
3316-	18-Ctgs:	Same and bluish gray limestone.
3318-	21-Ctgs:	Same and dark grayish brown limestone.
3321-	23-Ctgs:	Same.
3323-	26-Ctgs:	Light gray slightly greenish-tinged granular limestone, and light brown granular limestone.
3326-	39-Ctgs:	Same.
3339-	40-Ctgs:	Light brown granular and dense limestone.
3340-	43-Ctgs:	Same.
3343-	46-Ctgs:	Same.
3346-	49-Ctgs:	Light brown granular limestone, brownish black shale.
3349-	51-Ctgs:	Light gray and brown granular limestone.
3351-	52-Ctgs:	Same and light brown dense limestone.
3352-	53-Ctgs:	Same.
3353-	54-Ctgs:	Same and dense limestone.
3354-	56-Ctgs:	Light gray and brown granular or finely crystalline limestone.
3356-	59-Ctgs:	Same.
3359-	60-Ctgs:	Light gray finely crystalline limestone, dolomitic ?
3360-	68-Ctgs:	Same.
3368-	69-Ctgs:	Same and brown granular limestone and chert.
3369-	70-Ctgs:	Same.
3370-	72-Ctgs:	Medium brown finely crystalline or granular limestone, dolomitic ?
3372-	74-Ctgs:	Light brown finely crystalline limestone.
3374-	76-Ctgs:	Same and dense limestone.
3376-	79-Ctgs:	Light and medium brown finely crystalline limestone.
3379-	82-Ctgs:	Same.
3382-	85-Ctgs:	Same and black shale frag.
3385-	87-Ctgs:	Same.
3387-	89-Ctgs:	Light greenish gray and light brown granular limestone.
3389-	90-Ctgs:	Light gray fine-grained dolomite; light brown limestone noted.
3390-	93-Ctgs:	Same.
3393-	95-Ctgs:	Light gray fine-grained dolomite and brown limestone frag.
3395-	97-Ctgs:	Same.

- 3397- 99-Ctgs: Light gray fine-grained dolomite.
3399-3403-Ctgs: Same and bluish gray dolomite.
3403- 08-Ctgs: Same and light brown dense limestone.
3408- 10-Ctgs: Light gray finely crystalline dolomite. Frag. of black shale.

3410- 11-Ctgs: Same.
3411- 13-Ctgs: Light gray dolomite.
3413- 15-Ctgs: Light gray finely crystalline dolomite.
3415- 17-Ctgs: Same.
3417- 19-Ctgs: Light gray and brown granular limestone.
Ostracods.

3419- 21-Ctgs: Same.
3421- 26-Ctgs: Light bluish gray and brown finely crystalline limestone, black shale frag.

3426- 30-Ctgs: Light gray finely crystalline dolomite.
3430- 35-Ctgs: Light bluish gray finely crystalline dolomite. Black shale —material from above.

3435- 39-Ctgs: Same.
3439- 41-Ctgs: Light bluish gray finely crystalline dolomite.
Light brown limestone, black shale from above ?
3441- 43-Ctgs: Same, with increasing amount of black to dark gray shale.
3443- 46-Ctgs: Same.
3446- 48-Ctgs: Light gray finely crystalline or granular dolomitic ? limestone.

3448- 50-Ctgs: Same.
3450- 52-Ctgs: Same and light brown finely crystalline or granular limestone.

3452- 54-Ctgs: Same. Occasional sand grains.
3454- 57-Ctgs: Same.
3456- 60-Ctgs: Light gray finely crystalline or granular dolomitic ? limestone.

3460- 68-Ctgs: Same.
3468- 76-Ctgs: Same and material from above.
3476- 89-Ctgs: Same.
3489- 93-Ctgs: Same and small amount of brown granular limestone.
3495- 96-Ctgs: Light gray granular or finely crystalline limestone.
3496-3500-Ctgs: Same and material from above.
3502- 04-Ctgs: Same.
3504- 07-Ctgs: Light gray granular or finely crystalline limestone; some brown limestone.

3507- 09-Ctgs: Light gray finely crystalline and dense limestone; light brown limestone.
3509- 10-Ctgs: Same.
3510- 13-Ctgs: Same. Occasional sand grains.
Ostracods.

3513- 16-Ctgs: Same.
3516- 18-Ctgs: Light gray finely crystalline or granular limestone, dolomitic ? Brown crystalline limestone.

- 3518- 22-Ctgs: Light gray finely crystalline limestone, and material from above.
- 3522- 27-Ctgs: Light gray granular finely crystalline limestone.
- 3527- 42-Ctgs: Same.
- 3542- 46-Ctgs: Bluish granular or finely crystalline dolomitic ? limestone; dark blue and green shaly lime.
- 3546- 68-Ctgs: Same.
- 3568- 72-Ctgs: Light and medium greenish gray granular and crystalline limestone, dark greenish gray shaly lime; light brown limestone.
- 3572- 79-Ctgs: Same.
- 3579- 82-Ctgs: Light brown dense limestone, with light green streaks.
- 3582- 85-Ctgs: Greenish gray granular limestone, small amount of light brown dense limestone, occasional sand grains. Ostracods.
- 3585- 87-Ctgs: Bluish gray finely crystalline or granular limestone; dark gray shale frag. Ostracods.
- 3587- 90-Ctgs: Same.
- 3590- 93-Ctgs: Light gray granular or crystalline limestone; dark greenish gray shale.
- 3595-3600-Ctgs: Light gray and bluish gray granular or finely crystalline limestone. Blue shale. Pink streaks noted in limestone. Ostracods.
- 3600- 14-Ctgs: Light bluish gray granular limestone, brown crystalline limestone, greenish gray shaly lime. Ostracods.
- 3604- 08-Ctgs: Same.
- 3608- 12-Ctgs: Light bluish gray granular limestone. Greenish gray shale noted.
- 3616- 24-Ctgs: Light bluish and greenish gray granular limestone, dolomitic ? Sand noted.
- 3624- 34-Ctgs: Bluish gray granular limestone; green shale with pyrite.
- 3634- 40-Ctgs: Bluish gray sandy finely crystalline dolomite with pyrite. Sand grains well rounded. Green shale.
- 3640- 45-Ctgs: Light gray and brown or gran. dolomitic limestone, light brown and milky chert; dark brown crystalline limestone, occasional rounded sand grains.
- 3645- 52-Ctgs: Light gray dolomite. Occasional quartz grains.
- 3652- 59-Ctgs: Same and brown dense limestone. Pyrite.
- 3659- 65-Ctgs: Light brown granular and dense limestone; brown crystalline limestone.
- 3665- 68-Ctgs: Bluish gray granular limestone, part slightly sandy; dark brown and pink tinged limestone.
- 3668- 72-Ctgs: Light and dark brown dense limestone.
- 3672- 85-Ctgs: Light brown crystalline or granular limestone, dolomitic ?
- 3685- 88-Ctgs: Light and dark brown granular and crystalline limestone, chert and green shale.

- 3688- 91-Ctgs: Light granular and crystalline limestone, dark brown dense and crystalline limestone.
- 3691- 94-Ctgs: Same and brown limestone, fossiliferous.
- 3694- 98-Ctgs: Same.
- 3698-3703-Ctgs: Brown granular and dense limestone.
- 3703- 06-Ctgs: Light and dark brown finely crystalline limestone.
- 3706- 09-Ctgs: Same and dense limestone.
- 3709- 12-Ctgs: Brown dense limestone.
- 3712- 15-Ctgs: Brown and light gray limestone.
- 3715- 18-Ctgs: Brown and grayish brown granular limestone.
- 3718- 24-Ctgs: Light gray limestone, light and dark brown granular and dense limestone, fossiliferous.
- 3724- 30-Ctgs: Same.
- 3730- 32-Ctgs: Brown crystalline, fossiliferous limestone; light gray fossiliferous limestone.
(brachiopod impressions.)
- 3732- 40-Ctgs: Same.
- 3740- 43-Ctgs: Brown and light gray dense and crystalline limestone.
Ostracods noted.
- 3743- 47-Ctgs: Brown dense limestone, light gray dense limestone.
- 3747- 51-Ctgs: Same.
Small brachiopod noted.
- 3751- 58-Ctgs: Same.
- 3758- 63-Ctgs: Same and crystalline limestone.
- 3763- 66-Ctgs: Light brown dense limestone, dark brown crystalline limestone.
- 3766- 70-Ctgs: Medium and light brown granular limestone and crystalline limestone.
- 3770- 73-Ctgs: Same.
- 3773- 75-Ctgs: Light and medium brown crystalline and dense limestone, fossiliferous.
- 3775- 80-Ctgs: Medium and dark brown finely crystalline limestone, fossiliferous.
- 3780- 85-Ctgs: Brown crystalline limestone.
- 3785- 87-Ctgs: Same.
- 3787- 90-Ctgs: Dark and medium brown dense limestone.
- 3790- 94-Ctgs: Dark and medium brown dense limestone.
- 3794- 97-Ctgs: Dark and medium brown dense limestone.
- 3797-3802-Ctgs: Grayish brown granular limestone, dolomitic ?
- 3802- 08-Ctgs: Same—dolomite ?
- 3808- 17-Ctgs: Dark and medium brown dense limestone, fossiliferous.
- 3817- 22-Ctgs: Same and dark brown shaly lime.
- 3822- 28-Ctgs: Dark and medium brown dense limestone.
- 3828- 34-Ctgs: Dark and medium brown dense and crystalline limestone.
- 3834- 36-Ctgs: Same, and light brown granular limestone, dolomite ?
- 3836- 46-Ctgs: Light gray dolomite.
- 3846- 55-Ctgs: Same.
- 3855- 64-Ctgs: Medium and dark brown dense limestone, fossiliferous.
- 3864- 71-Ctgs: Same and dolomitic limestone from above.

- 3871- 79-Ctgs: Medium to dark brown dense limestone, dark brown shaly lime.
- 3879- 80-Ctgs: Same and grayish brown dolomitic limestone.
- 3860- 85-Ctgs: Same.
- 3885- 87-Ctgs: Medium brown dense limestone.
- 3887- 92-Ctgs: Light brownish gray fine-grained dolomite.
- 3892- 95-Ctgs: Same and material from above.
- 3895- 99-Ctgs: Medium brown dense limestone.
- 3899-3901-Ctgs: Same and light grayish brown dolomite.
- 3901- 07-Ctgs: Light gray dolomite.
- 3907- 10-Ctgs: Medium brownish gray dense and granular limestone.
- 3910- 13-Ctgs: Same.
- 3913- 17-Ctgs: Light and dark brown dense limestone.
- 3917- 22-Ctgs: Medium and dark brown dense limestone.
- 3922- 26-Ctgs: Same and granular limestone, fossiliferous.
- 3926- 33-Ctgs: Same.
- 3933- 36-Ctgs: Medium and dark brown dense limestone.
- 3936- 47-Ctgs: Same.
- 3947- 51-Ctgs: Same and granular limestone.
- 3951- 54-Ctgs: Same.
- 3954- 60-Ctgs: Dark and medium brown dense limestone, dark brown hard shaly lime.
- 3960- 65-Ctgs: Same and crystalline limestone.
- 3965- 72-Ctgs: Dark brown dense limestone and brown chert.
- 3972- 73-Ctgs: Same, with more brown chert.
- 3973- 78-Ctgs: Medium and dark brown dense limestone.
- 3978- 83-Ctgs: Same.
- 3983- 91-Ctgs: Same and light gray dolomitic lime.
- 3991- 97-Ctgs: Same.
- 3997-4000-Ctgs: Brown dense and crystalline limestone, dark brown shaly lime.
- 4000- 08-Ctgs: Same and light gray dolomitic limestone.
- 4008- 13-Ctgs: Brown and light gray dense limestone.
- 4013- 15-Ctgs: Same and brown granular limestone.
- 4015- 19-Ctgs: Same and dark brown hard shaly lime.
- 4019- 25-Ctgs: Brown dense and crystalline limestone, dark brown hard shaly lime.
- 4025- 28-Ctgs: Same and gray dolomite.
- 4028- 33-Ctgs: Dark and medium brown and light gray dense and crystalline limestone, and small amount of light gray dolomite.
- 4033- 39-Ctgs: Same, and light gray dolomite.
- 4039- 45-Ctgs: Brown and gray brown dense limestone.
- 4045- 49-Ctgs: Same and dolomitic limestone.
- 4049- 52-Ctgs: Brown dense limestone.
- 4052- 54-Ctgs: Same.
- 4054- 57-Ctgs: Brown dense and crystalline limestone.
- 4057- 61-Ctgs: Same.
- 4061- 65-Ctgs: Grayish brown dense and crystalline limestone.
- 4065- 82-Ctgs: Same.

- 4082- 88-Ctgs: Dark and medium brown dense and granular limestone.
 4088- 94-Ctgs: Dark and light brown dense limestone, brown crystalline limestone.
 4094-4100-Ctgs: Light gray dolomite.
 4100- 05-Ctgs: Light gray dolomite.
 4103- 07-Ctgs: Same.
 4107- 10-Ctgs: Same, with black and brown stained portions.
 4110- 15-Ctgs: Same.
 4115- 20-Ctgs: Light gray and brown dense limestone, dark brown limestone and shaly lime.
 4120- 25-Ctgs: Same. Some of brown dense limestone with sand inclusions.
 4120- 24-Ctgs: Same.
 4124- 27-Ctgs: Brown dense and grayish brown granular limestone.
 4127- 31-Ctgs: Same.
 4131- 33-Ctgs: Light brown dolomitic limestone.
 4133- 53-Ctgs: Same.
 4153- 56-Ctgs: Brown dense and granular limestone.
 4156- 63-Ctgs: Same.
 4163- 66-Ctgs: Same.
 Brachiopod impressions.
 4166- 75-Ctgs: Same.
 4173- 82-Ctgs: Brown and gray dense limestone.
 Shell impressions noted.

Summary

Pennsylvanian	to.....	1362'
Pennington & Bangor	1362'	to.....1925-30'
Hartselle	1925-30'	to.....2110'±
Gaspar, Bethel & St. Genevieve	2110'	to.....2189'
Tuscumbia	2189'	to.....2367'
Fort Payne	2367'	to.....2406'
Maury & Chattanooga Shale	2406'	to.....2435'
Silurian	2435'	to.....2773-79'
Ordovician	2773-79'	to.....4182' T.D.

Superior Oil Co.
 Moss-McCormack #1
 SW/4 of SE/4 of NE/4
 Sec. 14—T 14 S—R 9 W
 Walker County, Ala.

Elev. 498' D. F.
 Began October 21, 1942
 Comp. December 18, 1942

- 20- 30-Ctgs: Gray and brown hard micaceous sandstone.
- Pennsylvanian**
- 30- 60-Ctgs: Same and gray sandy shale.
- 60- 70-Ctgs: Gray hard mic., carb. sandstone and shale.
- 70- 90-Ctgs: Dark gray hard mic., sandy shale.
- 90- 100-Ctgs: Same and medium gray hard sandstone.
- 100- 10-Ctgs: Dark gray shale, part sand and with mic.
- 110- 20-Ctgs: Same.
 Shell frag. noted.
- 120- 30-Ctgs: Same, with light gray hard mic., carb. sandstone. Carbonaceous material noted.
- 130- 40-Ctgs: Dark gray shale. Frag. of coal.
- 140- 50-Ctgs: Gray hard medium to fine-grained mic., carb. sandstone and gray sandy carb. shale.
- 150- 60-Ctgs: Same. Coal frag.
- 160- 70-Ctgs: Dark gray to black hard shale, gray fine-grained mic., carb. sandstone.
- 170- 90-Ctgs: Same. Frag. of coal.
- 190- 200-Ctgs: Light gray hard medium-grained mic., carb. sandstone, black shale, frag. of coal.
- 200- 10-Ctgs: Coal. Frag. of gray sandstone.
- 210- 20-Ctgs: Black and gray shale and sandy shale with mica and gray hard mic., carb. sandstone.
- 220- 30-Ctgs: Same. Coal frag.
- 230- 40-Ctgs: Coal and frag. of gray sandstone and shale.
- 240- 70-Ctgs: Black and gray sandy shale with mica, gray medium to fine-grained sandstone. Coal frag.
- 270- 80-Ctgs: Same with coarse-grained mic. sandstone noted.
- 280- 300-Ctgs: Light gray coarse and medium-grained sandstone, black and gray shale.
- 300- 10-Ctgs: Same and gray clay noted.
- 310- 40-Ctgs: Same and coal frag. noted.
- 340- 70-Ctgs: Same and gray carb. shale.
 Small gastropods noted.
- 370- 90-Ctgs: Same with increasing amount of gray clay.
- 390- 400-Ctgs: Light gray hard medium-grained mic. sandstone and dark gray carb. shale.
- 400- 10-Ctgs: Same and brown highly calcareous sandstone with mica.
- 410- 80-Ctgs: Light gray hard medium-grained mic. sandstone; gray carb. sandy mic. shale.

- 480- 530-Ctgs: Same and frag. of brown calcareous sandstone.
530- 50-Ctgs: Gray hard medium-grained mic. sandstone, gray shale.
550- 600-Ctgs: Dark gray shale and sandy shale with mica, frag. of light gray sandstone.
600- 20-Ctgs: Dark gray to black shale.
620- 30-Ctgs: Same. Brown lime frag.
640- 50-Ctgs: Same and frag. of gray sandstone.
650- 60-Ctgs: Same and brown sandstone frag.
660- 80-Ctgs: Same with increasing amount of brown micaceous sandstone.

680- 710-Ctgs: Same and gray clay with siderite concretions.
710- 20-Ctgs: Light gray coarse-grained sandstone and dark gray shale with carb. material.
720- 80-Ctgs: Same with dark gray to black shale.
780- 800-Ctgs: Very coarse-grained sand and sandstone, quartz crystals noted, also gray clay and black shale.
800- 10-Ctgs: Same and fine-grained sandstone, sandy shale.
810- 900-Ctgs: Medium gray hard fine-grained mic., carb. sandstone, gray sandy shale.
900- 10-Ctgs: Dark gray to black shale and sandy shale with carbonaceous material.
910- 20-Ctgs: Same and sand.
920- 30-Ctgs: Same.
930- 40-Ctgs: Gray coarse to fine-grained sandstone and gray to black mic. shale.
940- 50-Ctgs: Gray hard fine-grained mic. sandstone and dark gray sandy mic. shale.
950- 60-Ctgs: Light gray medium to coarse-grained sandstone and gray to black shale.
960- 70-Ctgs: Medium to fine-grained mic. sandstone and dark gray sandy shale.
970- 80-Ctgs: Medium-grained sandstone and dark gray sandy shale.
980-1020-Ctgs: Same and greenish shale frag.
1020- 30-Ctgs: Same and carbonaceous material.
1030- 40-Ctgs: Light gray sandstone, dark gray sandy shale, black carb. shale.
1040- 50-Ctgs: Same and gray carb. shale.
1050- 90-Ctgs: Light gray medium-grained sandstone with mica, dark gray sandy shale, carbonaceous material.

1090-1100-Ctgs: Same and coarse-grained sandstone.
1100- 10-Ctgs: Same and coal frag.
1110- 30-Ctgs: Same and coarse-grained sandstone.
1130- 90-Ctgs: Same and coal frag.
1190-1200-Ctgs: Light gray medium-grained sandstone, dark gray shale and lime frag. noted.
1200- 20-Ctgs: Same and coarse-grained sandstone noted.
1220- 30-Ctgs: Gray medium-grained sandstone, dark gray to black shale and sandy shale.
1230- 40-Ctgs: Same and fine-grained sandstone.

- 1240- 60-Ctgs: Light gray hard medium-grained sandstone, dark gray and black mic. shale.
- 1260- 70-Ctgs: Same and frag. of coal.
- 1270- 80-Ctgs: Same and greenish gray clay.
- 1280-1310-Ctgs: Same with increasing amount of coal and carbonaceous material.
- 1310- 30-Ctgs: Light gray hard medium-grained mic. sandstone and dark gray shale.
- 1330- 40-Ctgs: Same and medium gray sandy shale. Coal frag. noted.
- 1340- 50-Ctgs: Same and medium gray sandy shale. Coal frag. noted.
- 1340- 50-Ctgs: Brown sandy lime slightly fossiliferous. Crinoid stems noted.
- 1350- 60-Ctgs: Same and light gray sandstone, dark gray shale.
- 1360- 70-Ctgs: Dark gray shale, light gray hard sandstone, coal and brown sandy limestone frag.
- 1370- 80-Ctgs: Light gray hard fine-grained sandstone, dark gray sandy mic. shale, greenish gray shale.
- 1380- 90-Ctgs: Same and frag. of brown lime, prob. from above.
- 1390-1400-Ctgs: Gray hard medium to fine-grained sandstone, dark gray sandy shale and black shale, brown sandy limestone frag.
- 1400- 10-Ctgs: Same and coal.
- 1410- 20-Ctgs: Light gray hard fine-grained sandstone and gray to black shale; a small amount of coal.
- 1420- 30-Ctgs: Same and greenish gray shale.
- 1430- 40-Ctgs: Light gray hard fine-grained sandstone, dark gray mic. shale and sandy shale; carbonaceous material.
- 1440- 50-Ctgs: Same and carbonaceous material and greenish shale.
- 1450- 80-Ctgs: Gray medium to coarse-grained sandstone, gray to black shale, coal frag., greenish gray clay frag.
- 1480- 90-Ctgs: Light gray medium-grained sandstone, coal and gray shale.
- 1490-1500-Ctgs: Same and coarse sand.
- 1500- 10-Ctgs: Coarse-grained sand and sandstone, and black shale frag.
- 1510- 30-Ctgs: Same, and quartz pebbles, and medium-grained gray sandstone.
- 1530- 50-Ctgs: Same with increasing amount of shale.
- 1550- 60-Ctgs: Pebbles, medium to coarse-grained sandstone, gray and black shale.
- 1560-1600-Ctgs: Same and coal.
- 1600- 10-Ctgs: Light gray medium-grained sandstone, pebbles, black, gray and greenish shale.

Pennsylvanian

- 1610- 20-Ctgs: Same.
- 1620- 30-Ctgs: Coarse-grained sandstone, pebbles, **crinoid stems** noted. Frag. of greenish gray lime.

Pennington

- 1630- 40-Ctgs: Light gray limestone, green and dark reddish brown shale.
- 1640- 50-Ctgs: Light gray limestone, dark reddish brown and green shale. Crinoid stems.
- 1650- 70-Ctgs: Same and greenish gray lime.

- 1670- 80-Ctgs: Same and green lime.
1680- 90-Ctgs: Same and frag. of hard fine-grained sandstone.
1690-1720-Ctgs: Same and hard fine-grained sandstone.
1720- 30-Ctgs: Gray limestone, green and dark red shale, chert noted.
1730- 40-Ctgs: Same with considerable chert.
1740- 50-Ctgs: Same with brown and milky chert.
1750- 60-Ctgs: Brownish gray lime and chert.

Bangor

- 1760-1830-Ctgs: Brownish gray limestone, **crinoid stems**.
1830- 40-Ctgs: Same.
Fenestella Bryozoa frag. noted.
1840- 50-Ctgs: Grayish brown crystalline, fossiliferous limestone. Green shale noted.
1850- 70-Ctgs: Same. Chert noted.
1870- 80-Ctgs: Same.
Brachiopods.
1880- 90-Ctgs: Same. Oolitic limestone noted.
1890-1900-Ctgs: Same, except limestone somewhat darker.
1900- 10-Ctgs: Dark grayish brown crystalline limestone.
Ostracods.
1910- 70-Ctgs: Same, and oolitic limestone. Black shale frag.
1970- 90-Ctgs: Dark brown and gray fossiliferous limestone.
1990-2000-Ctgs: Same, and black shale.
2000- 20-Ctgs: Same, and brown chert noted.
2020- 30-Ctgs: Same, with considerable brown chert.
2030- 40-Ctgs: Same and green shale.
2040- 50-Ctgs: Same, with more gray and black shale. **Crinoid stems**; oolitic limestone.
2050- 60-Ctgs: Gray and brown limestone, gray to black shale; oolitic limestone.
Ostracods.
2060- 70-Ctgs: Same, fossiliferous.
2070- 90-Ctgs: Same.
Crinoid stems.
2090-2100-Ctgs: Gray medium-grained closely cemented sandstone, and material from above.

Hartselle Sandstone**Core #2**

- 2101- 04—Core— Light gray hard closely cemented medium-grained sandstone, slightly calcareous.

Core #3

- 2107- 11—Core— Same, with slight asphaltic stain through core.

Core #4

- 2108- 15—Core— Same, with increasing amount of asphaltic residue in core. Mica and pyrite noted.

Core #10

- 2136- 42—Core— Medium-grained hard closely cemented sandstone with oil stain. Portion of core light greenish gray closely cemented, non-calcareous, fine-grained sandstone with mica and pyrite noted. Asphaltic residue in core.

Core #11

- 2142- 45—Core— Light gray hard coarse-grained sandstone, very fossiliferous.
Bryozoa and crinoid stems noted.
Shell impressions.

Core #15

- 2154- 57—Core— Gray medium-grained sandstone somewhat more loosely cemented than preceding cores, with asphaltic residue through core.

Core #16

- 2157- 62—Core— Light gray hard medium-grained sandstone with asphaltic residue through parts of core. Mica noted.

Core #17

- 2162- 65—Core— Light gray hard medium to fine-grained sandstone with asphaltic residue through parts of core.

Core #19

- 2174- 81—Core— Gray hard fine-grained sandstone with black mic. shale lenses. Bituminous material through core.

- 2181- 95-Ctgs: Light gray hard fine-grained hard closely cemented sandstone, dark gray shale and **shell frag.**

- 2195-2225-Ctgs: Same and material from above.

- 2225- 35-Ctgs: Light gray hard fine-grained sandstone and material from above.

- 2235- 40-Ctgs: Light gray hard fine-grained sandstone and material from above.

Black fossiliferous shale.

- 2240- 50-Ctgs: Same.

Crinoid stems noted.

Gasper ?

- 2255- 60-Ctgs: Same. Black shale, part fossiliferous.
Nautilus ? frag.

- 2260- 70-Ctgs: Black shale carrying **Fenestella Bryozoa.**
Gastropods.

- 2270- 80-Ctgs: Black shale, part fossiliferous; light gray sandstone.

- 2280- 90-Ctgs: Black shale, sandy shale, and material from above.

- 2290-2300-Ctgs: Same and hard fine-grained sandstone.

- 2300- 20-Ctgs: Same.

- 2320- 25-Ctgs: Same with more sandy shale. Black shale, fossiliferous.
Small gastropods.

- 2335- 55-Ctgs: Gray hard sandstone and sandy shale. Black shale, part fossiliferous.

- 2355- 75-Ctgs: Black shale, sandy ~~shale~~, hard fine-grained sandstone, and material from above.
2375- 80-Ctgs: Black shale, gray sandy shale; **crinoid stems**.
2380- Ctgs: Dense black shale; sandy shale. Pyrite.
2380- 90-Ctgs: Black shale, gray sandy shale. Gray limestone.
2390-2400-Ctgs: Same, and light gray limestone.

Tuscumbia**Core #20**

- 2407- 11—Core— Bluish chert and brown coarsely crystalline limestone.
Shell impressions noted.

Core #21

- 2416- 36—Core— Top—Very coarsely crystalline limestone with considerable asphaltic residue. An abundance of **Fenestella Bryozoa**.
Middle—Same.
Bottom—Brown crystalline limestone with bituminous odor.

Core #22

- 2436- 54—Core— Light gray coarsely crystalline limestone with softer portions through core.
Fenestella Bryozoa.
2430- 40-Ctgs: Same and brown stained limestone.
2440- 80-Ctgs: Same and light gray crystalline limestone.
2480-2510-Ctgs: Same and milky chert.
2510- 30-Ctgs: Brown-stained limestone.
2530- 40-Ctgs: Brown and gray crystalline limestone, chert noted.

Prob. Fort Payne

- 2540- 50-Ctgs: Same.
2550-2600-Ctgs: Same and cherty limestone.
2600- 10-Ctgs: Brown limestone and cherty limestone; black shale from above.
2610- 20-Ctgs: Brown limestone and bluish and brown chert; black shale from above.
2620- 30-Ctgs: Same, and bluish brown chert.
2630- 40-Ctgs: Brown chert and limestone with glauconite; black shale and sandy shale.

Chattanooga

- 2640- 50-Ctgs: Black shale with **spores**.
2650- 60-Ctgs: Black shale with **spores** and sandy shale.
2660- 70-Ctgs: Brownish black shale and sandy shale.
2670- 80-Ctgs: Same and dark gray dense sandstone.
2680- 90-Ctgs: Same and brown and greenish limestone.

Silurian ?

- 2690-2710-Ctgs: Same.
2710- 20-Ctgs: Gray, yellowish and greenish limestone, black sandstone and shale, from above ?

- 2720- 30-Ctgs: Same, and fine-grained sandstone, from above ? Brown shale.
Crinoid stems.
- 2730- 40-Ctgs: Green and gray limestone and frag. of reddish brown limestone noted.
- 2740- 70-Ctgs: Same.
- 2770- 90-Ctgs: Same, and gray and black shale from above ?
- 2790-2810-Ctgs: Same and material from above.
- 2810- 30-Ctgs: Green and gray limestone and sandstone frag.
- 2830- 40-Ctgs: Same and reddish lime noted.
- 2840- 60-Ctgs: Same.
Crinoid stems.
- 2860- 70-Ctgs: Same and pink and dark red lime with **crinoid stems**.
- 2870- 80-Ctgs: Same with increasing amount of dark red and pink limestone.
- 2880- 90-Ctgs: Pink and dark red and greenish limestone with **crinoid stems**.
- 2890-2900-Ctgs: Green and light gray limestone, pink and reddish limestone.
- 2900- 20-Ctgs: Same and **crinoid stems**.
- 2920- 30-Ctgs: Same and **brachiopod impressions**.
- 2930- 50-Ctgs: Same with increasing amount of dark red and pink limestone.
Ostracods.
- 2950- 80-Ctgs: Same.
Ostracods.
- 2980-3000-Ctgs: Same. Dark red oolitic concretions.
- 3000- 20-Ctgs: Same and limestone frag. of dark red oolitic concretions.
- 3020- 30-Ctgs: Gray and dark gray limestone with black phosphatic inclusions.

Ordovician—Trenton

- 3030- 90-Ctgs: Gray and dark gray limestone with black phosphatic inclusions.
- 3090-3120-Ctgs: Same and dark gray hard limestone.
- 3120- 60-Ctgs: Same and material from above.
- 3160- 65-Ctgs: Gray limestone with small black inclusions and material from above.
- 3175- 80-Ctgs: Same.
Crinoid stems from the Silurian.
- 3180-3200-Ctgs: Same and oolitic and concretionary material from the Silurian.
- 3200- 10-Ctgs: Same and gray limestone, also oolitic and concretionary material from the Silurian.
- 3210- 20-Ctgs: Same.
- 3220- 30-Ctgs: Same. **Crinoid stems** forming nucleus for concretions in Silurian, falling from above.
- 3230- 70-Ctgs: Same with oolitic material and dark red shale from the Silurian.
- 3270- 90-Ctgs: Same and material from above.

3290-3300-Ctgs: Gray dense and crystalline limestone and material from above.

Black River

3300- 20-Ctgs: Same.

3320- 40-Ctgs: Same and grayish brown dense limestone.

3340- 50-Ctgs: Brownish gray dense and crystalline limestone.

3350- 60-Ctgs: Gray and brown dense limestone.

3360- 70-Ctgs: Same and crystalline limestone.

3370-3400-Ctgs: Same and green limestone, from above ?

3400- 20-Ctgs: Brownish gray and gray dense and crystalline limestone.

3420- 30-Ctgs: Drab-colored dense limestone and brownish gray and gray dense limestone.

3430- 40-Ctgs: Drab-colored dense limestone.

3440- 50-Ctgs: Same and gray and brown dense limestone.

3450- 60-Ctgs: Gray and brown dense limestone and material from above.

3460- 80-Ctgs: Light greenish gray dense limestone, and material from above.

3480- 90-Ctgs: Same and drab-colored dense limestone.

3490-3500-Ctgs: Same and greenish gray finely granular limestone.

3500- 10-Ctgs: Light brown and greenish dense limestone.

3510- 20-Ctgs: Greenish gray dense limestone.

3520- 70-Ctgs: Light greenish gray and brown dense and finely granular limestone.

3569- 76—Core— Brown finely crystalline limestone.

3570- 80-Ctgs: Brown granular limestone.

3580- 90-Ctgs: Brown and greenish gray finely granular limestone.

3590-3600-Ctgs: Light brown and gray finely granular limestone.

Shell frag. noted.

3600- 10-Ctgs: Light greenish gray and brown finely granular limestone.

3610- 40-Ctgs: Light greenish gray and brown finely granular limestone.
Sandy limestone noted.

3640- 50-Ctgs: Light brownish gray dense limestone.

3650- 60-Ctgs: Light greenish gray dense and finely granular limestone.

3660-3700-Ctgs: Same and light brown finely granular limestone.

3700- 50-Ctgs: Light gray and brown dense and finely granular limestone.

3750- 70-Ctgs: Same. Crystalline calcite filling cavities.

3770-3800-Ctgs: Light greenish gray and gray dense and finely granular limestone.
Ostracods.

3800- 10-Ctgs: Light greenish gray and drab-colored finely granular limestone.

3810- 40-Ctgs: Light greenish gray finely granular limestone.

3840- 50-Ctgs: Same and dense limestone.

3850- 70-Ctgs: Light greenish gray finely granular limestone.

3870- 80-Ctgs: Same and dense limestone.

3880-3900-Ctgs: Light greenish gray finely granular limestone and drab-colored dense limestone.

3900- 30-Ctys: Light greenish gray and drab-colored finely granular and dense limestone.

- 3930- 40-Ctgs: Light gray finely granular limestone with occasional rounded frosted quartz grains.
- 3940- 60-Ctgs: Light gray dense limestone.
- 3960- 70-Ctgs: Light gray finely granular limestone with occasional rounded frosted quartz grains.
- 3970- 80-Ctgs: Light gray sandy finely granular limestone, quartz grains rounded and frosted.
- 3980- 90-Ctgs: Light gray sandy limestone, quartz grains rounded, frosted and pitted.
- 3990-4010-Ctgs: Light gray dense and crystalline limestone with rounded and frosted quartz grains.
- 4010- 20-Ctgs: Light gray limestone with rounded quartz inclusions.
- 4020- 40-Ctgs: Light gray finely crystalline limestone, occasional rounded frosted quartz grains.
- 4040- 50-Ctgs: Light gray and brown finely crystalline limestone.
- 4050- 60-Ctgs: Light brown finely crystalline limestone, part sandy.
- 4060- 70-Ctgs: Light brown and gray finely granular dolomitic limestone. Sandy limestone and chert noted.
- 4070- 80-Ctgs: Light brown and gray finely granular dolomitic limestone and brown chert.
- 4080-4100-Ctgs: Light brown crystalline and dense dolomitic limestone.
- 4100- 10-Ctgs: Light grayish brown finely granular and dense dolomitic limestone.
- 4110- 20-Ctgs: Light gray and brown granular and dense dolomitic limestone.
- 4120- 40-Ctgs: Same, with **brachiopod noted**. Chert.
- 4140- 60-Ctgs: Brown and grayish brown finely crystalline dolomitic limestone.
- 4160- 80-Ctgs: Light brown and grayish brown dense and finely granular dolomitic limestone.
- 4180-4240-Ctgs: Light brown and gray dense and finely crystalline dolomitic limestone.
- 4240- 70-Ctgs: Light brownish gray and gray finely granular and dense dolomitic limestone.
- 4270-4300-Ctgs: Same, with increasing amount of gray granular dolomitic limestone.
- 4300- 10-Ctgs: Brown and gray finely granular and dense dolomitic limestone.
- 4310- 15-Ctgs: Brown dense limestone and gray and brown finely crystalline dolomitic limestone.
- 4315- 25-Ctgs: Same and brown chert; material from above.
- 4325- 35-Ctgs: Brown crystalline and dense dolomitic limestone.
- 4335- 40-Ctgs: Same and frag. of gray limestone with glauconite, from above ? Green shale.
- 4340- 50-Ctgs: Same and material from above. Medium brownish gray crystalline fossiliferous limestone frag.

Summary

Pennsylvanian	to.....	1620'
Pennington & Bangor	1620'	to.....2090'
Hartselle Sandstone	2090'	to.....2240'
Gasper	2240' (Including black shale below)	2390'
Tuscumbia & Fort Payne	2390'	to.....2630-40
Chattanooga	2630-40'	to.....2680-90'
Silurian	2680-90'	to.....3020'
Ordovician	3020'	to.....4350' T.D.

Stanolind Oil and Gas Co.

Ulysses #1

Center NE/4 of NE/4 of NE/4

Sec. 20—T 13 S—R 7 W

Walker County, Ala.

Elev. 446 ft. D. F.

Began March 4, 1944

Completed April 22, 1944

- 8- 16-Ctgs: Gray hard medium-grained mic. non-calcareous sandstone with brown claystone.

Pennsylvanian

- 16- 30-Ctgs: Same and loose sand.
 30- 45-Ctgs: Same.
 45- 50-Ctgs: Same. Asphaltic material noted.
 50- 55-Ctgs: Same.
 55- 62-Ctgs: Same somewhat harder.
 62- 70-Ctgs: Same somewhat coarser and harder.
 70- 77-Ctgs: Same with dark gray shale frag.
 77- 83-Ctgs: Same with reddish brown claystone and carbonaceous material.
 83- 90-Ctgs: Same with gray sandy mic. shale.
 90- 97-Ctgs: Same.
 97- 105-Ctgs: Medium and fine-grained sand and sandstone with gray shale frag.
 105- 12-Ctgs: Same with mica and brown claystone.
 112- 20-Ctgs: Same with dark gray sandy shale.
 120- 28-Ctgs: Same with dark gray carb. shale.
 128- 35-Ctgs: Dark gray sandy mic. shale and brown claystone.
 135- 40-Ctgs: Same with carbonaceous material.
 140- 50-Ctgs: Gray fine-grained sandstone and sandy shale.
 150- 60-Ctgs: Light gray fine-grained sand and sandstone with mica and sandy shale.
 160- 240-Ctgs: Same.
 240- 50-Ctgs: Same and dark gray sandy mic. shale.
 250- 60-Ctgs: Gray fine-grained sand.
 260- 65-Ctgs: Dark gray sandy shale with mica.

- 265- 88-Ctgs: Same.
 288- 93-Ctgs: Gray and black sandy shale, and brown claystone.
 293- 300-Ctgs: Same.
 300- 07-Ctgs: Light gray hard fine-grained sandstone and gray shale with siderite concretions.
 325- 35-Ctgs: Fine-grained sand and frag. of gray shale.
 335- 40-Ctgs: Same.
 340- 48-Ctgs: Gray medium-grained sand and sandstone with mica and dark gray shale.
 348- 58-Ctgs: Same.
 358- 70-Ctgs: Same.
 370- 75-Ctgs: Medium to coarse-grained sand and sandstone with mica and shale frag.
 375- 94-Ctgs: Same.
 394- 402-Ctgs: Medium to coarse-grained sand.
 402- 15-Ctgs: Same.
 415- 22-Ctgs: Same and black sandy shale.
 422- 28-Ctgs: Same and black sandy shale.
 Crinoid stems noted.
 428- 35-Ctgs: Same.
 435- 40-Ctgs: Gray fine-grained sand and shale frag.
 440- 44-Ctgs: Same and sandstone frag.
 444- 50-Ctgs: Same.
 450- 55-Ctgs: Medium to coarse-grained sand and sandstone, gray sandy shale with mica.
 470- 74-Ctgs: Black and gray sandy mic. shale and medium-grained sand.
 474- 98-Ctgs: Same.
 498- 502-Ctgs: Gray to black shale, part sandy.
 502- 13-Ctgs: Same.
 513- 18-Ctgs: Gray and brown medium and fine-grained hard sandstone, gray sandy shale.
 518- 23-Ctgs: Frag. of gray and brown mic. sandstone, gray sandy shale, brown claystone.
 523- 28-Ctgs: Gray sandy shale.
 528- 35-Ctgs: Same.
 535- 40-Ctgs: Same and sandstone.
 540- 50-Ctgs: Gray fine-grained sandstone and sandy shale.
 550- 55-Ctgs: Gray sandy shale and sandstone.
 555- 59-Ctgs: Same and brown sandstone.
 559- 65-Ctgs: Light gray hard fine-grained sandstone with mica; gray sandy shale.
 565- 93-Ctgs: Same.
 593- 603-Ctgs: Same with coarse-grained sand and sandstone.
 603- 10-Ctgs: Same.
 610- 15-Ctgs: Medium-grained sand and sandstone.
 615- 22-Ctgs: Fine-grained sand. Carb. material.
 622- 28-Ctgs: Same and shale frag.
 628- 35-Ctgs: Same.

- 635- 40-Ctgs: Medium to coarse-grained sand and sandstone. Carb. material noted.
- 640- 45-Ctgs: Same.
- 645- 53-Ctgs: Coarse-grained sand and sandstone.
- 653- 65-Ctgs: Same.
- 658- 66-Ctgs: Medium-grained sandstone with mica.
- 666- 78-Ctgs: Coarse to fine-grained sand with mica.
- 678- 80-Ctgs: Same. Quartz grains with crystal faces.
- 680- 90-Ctgs: Coarse to medium-grained sand and sandstone.
- 690- 700-Ctgs: Medium to coarse-grained sand and sandstone, gray sandy shale frag.
- 700- 05-Ctgs: Gray hard sandstone and sandy shale.
- 705- 15-Ctgs: Same.
- 715- 20-Ctgs: Coarse to fine-grained sand.
- 720- 29-Ctgs: Same with brown claystone and carbonaceous material noted. Black shale.
- 729- 35-Ctgs: Very fine-grained sand.
- 735- 40-Ctgs: Coarse to fine-grained sand, black shale frag.
- 740- 45-Ctgs: Same. Carb. material noted.
- 745- 50-Ctgs: Light gray hard fine-grained sandstone with mica.
- 750- 54-Ctgs: Same.
- 754- 58-Ctgs: Gray to black sandy shale; light gray sandstone.
- 758- 62-Ctgs: Same.
- 760- 70-Ctgs: Same and brown claystone.
- 770- 75-Ctgs: Same.
- 781- 84-Ctgs: Medium to fine-grained sand. Shale frag.
- 784- 88-Ctgs: Same.
- 788- 91-Ctgs: Same and sandy shale.
- 791- 93-Ctgs: Same and sandstone.
- 793- 96-Ctgs: Same.
- 796- 800-Ctgs: Light gray hard medium and fine-grained sandstone, gray to black sandy mic. shale.
- 800- 03-Ctgs: Same.
- 803- 08-Ctgs: Same and medum-grained sand with crystal faces.
- 808- 17-Ctgs: Same.
- 817- 25-Ctgs: Medium-grained sand and sandstone, dark gray to black sandy shale, brown claystone; carb. material.
- 830- 35-Ctgs: Coal frag. and light gray hard fine-grained sandstone and sandy shale with mica.
- 835- 42-Ctgs: Coal frag., gray sandy shale and fine-grained sandstone.
- 842- 50-Ctgs: Same with mica.
- 850- 70-Ctgs: Same.
- 870- 75-Ctgs: Same with medium-grained sand and sandstone.
- 875- 80-Ctgs: Medium to fine-grained sand.
- 880- 86-Ctgs: Medium-grained sand and sandstone.
- 886- 92-Ctgs: Same with mica and sandy shale.
- 892- 900-Ctgs: Same.
- 900- 05-Ctgs: Very coarse sand and sandstone. Shale frag.
- 905- 10-Ctgs: Same and medium-grained sand; gray fine-grained hard sandstone and sandy shale with mica.

- 910- 12-Ctgs: Same and carb. material.
 912- 19-Ctgs: Light gray hard fine-grained mic. sandstone and sandy shale.
 919- 21-Ctgs: Same.
 921- 25-Ctgs: Same and fine sand.
 925- 31-Ctgs: Same.
 950- 58-Ctgs: Light gray hard fine-grained sandstone and sand; sandy shale frag.
 958- 80-Ctgs: Same.
 980- 88-Ctgs: Medium-grained sand, part with crystal faces.
 988- 95-Ctgs: Same with coarse sand and sandstone frag.
 995-1001-Ctgs: Medium and coarse-grained sand.
 1001- 07-Ctgs: Fine-grained sand.
 1007- 15-Ctgs: Medium-grained sand and sandstone.
 1015- 20-Ctgs: Medium to fine-grained sand.
 1020- 27-Ctgs: Medium to coarse-grained sand. Coal frag. noted.
 1027- 62-Ctgs: Same.
 1062- 69-Ctgs: Medium-grained sand.
 1069- 75-Ctgs: Same.
 1075- 85-Ctgs: Same and coal.
 1085- 91-Ctgs: Coarse and medium-grained sand with gravel; conglomerate frag.
 1091-1100-Ctgs: Same with sandstone and sandy shale frag.
 1100- 07-Ctgs: Gray limestone with oil stain.
 Bryozoa frag.

Bangor

- 1107- 12-Ctgs: Gray crystalline limestone, part with oil stain.
 1112- 23-Ctgs: Same.
 1123- 27-Ctgs: Same with shaly lime.
 1127- 31-Ctgs: Same.
 1131- 36-Ctgs: Gray limestone.
 1136- 41-Ctgs: Same.
 1141- 49-Ctgs: Same. Oolitic limestone noted.
 1149- 51-Ctgs: Same and oolitic limestone.
 Crinoid stems noted.
 1151- 56-Ctgs: Gray oolitic limestone.
 1156- 62-Ctgs: Oolitic limestone, dark gray shale.
 Crinoid stems.
 1162- 69-Ctgs: Same.
 1169- 73-Ctgs: Light gray crystalline limestone and shale from above.
 1173- 77-Ctgs: Same.
 1177- 82-Ctgs: Same with oil stain.
 1182- 87-Ctgs: Same.
 1187- 92-Ctgs: Same with slightly brown limestone.
 1192- 94-Ctgs: Same with cherty limestone.
 1194- 98-Ctgs: Brownish gray limestone.
 1198-1202-Ctgs: Same and coal from above.
 1202- 07-Ctgs: Same.
 1207- 12-Ctgs: Light gray crystalline limestone.

- 1212- 19-Ctgs: Same.
1219- 25-Ctgs: Light gray crystalline limestone with chert.
1225- 38-Ctgs: Same.
1238- 41-Ctgs: Brownish gray crystalline limestone.
1241- 49-Ctgs: Grayish brown crystalline limestone.
Crinoid stems.
1255- 60-Ctgs: Same and oolitic limestone.
1260- 72-Ctgs: Light gray oolitic limestone with oil stain.
1272- 80-Ctgs: Light gray oolitic and crystalline limestone with oil stain.
1280- 85-Ctgs: Light gray crystalline limestone, dark greenish gray shale.
1285- 90-Ctgs: Same, part of limestone with oil stain. **Crinoid stems.**
Soft greenish gray shale.
1290-1300-Ctgs: Same with oolitic limestone.
1300- 06-Ctgs: Light gray crystalline limestone.
1306- 15-Ctgs: Same.
Crinoid stems.
1315- 25-Ctgs: Light gray crystalline limestone, part oolitic. Greenish gray shale.
1325- 33-Ctgs: Same.
1333- 40-Ctgs: Light brown crystalline limestone and greenish gray shale.
1340- 45-Ctgs: Same.
1345- 56-Ctgs: Light gray oolitic limestone with oil stain.
Crinoid stems.
1356- 65-Ctgs: Oolitic limestone with increasing amount of oil stain, fossiliferous. Small **pelecypods** and **gastropods** noted. Greenish gray shale.
1365- 75-Ctgs: Same and crystalline limestone.
1375- 82-Ctgs: Light gray crystalline limestone, fossiliferous.
1382- 87-Ctgs: Same and greenish gray shale.
1387- 93-Ctgs: Same and oolitic limestone.
1393-1407-Ctgs: Same.
1407- 15-Ctgs: Brown and gray crystalline limestone.
1415- 22-Ctgs: Same and **crinoid stems**.
1422- 28-Ctgs: Same and greenish gray shale.
1428- 35-Ctgs: Brown and gray crystalline limestone, greenish gray shale.
1435- 40-Ctgs: Same.
1440- 46-Ctgs: Same. Black shale noted.
1446- 50-Ctgs: Same with chert.
1450- 57-Ctgs: Same with increasing amount of greenish gray shale.
1457- 63-Ctgs: Brown cherty limestone, greenish gray shale.
1463- 67-Ctgs: Brown limestone, black shaly lime.
Crinoid stems.
1467- 73-Ctgs: Brown and gray crystalline limestone, black shaly lime.
1473- 75-Ctgs: Same.
1475- 88-Ctgs: Dark brown and gray limestone, black shale with **Fenestella Bryozoa**; other **Bryozoa**.
1488-1503-Ctgs: Same.
1503- 11-Ctgs: Black shale and shaly lime.
Bryozoa.
Crinoid stems.

- 1511- 20-Ctgs: Same. **Pelecypods** and **crinoid stems**. Pyrite.
Cephalopod frag.
- 1520- 28-Ctgs: Black very fossiliferous shale and brown limestone.
Brachiopod frag. and spines.
Bryozoa.
- 1528- 30-Ctgs: Brownish gray oolitic and crystalline and black shale.
- 1530- 35-Ctgs: Brown crystalline limestone, fossiliferous and black shale.
- 1535- 40-Ctgs: Same.
- 1540- 47-Ctgs: Same and gray crystalline limestone.
- 1547- 58-Ctgs: Same.
- 1558- 65-Ctgs: Same and black shale with **brachiopod spines**.
- 1565- 70-Ctgs: Brown and gray limestone; black oolitic limestone. Black fossiliferous shale.
- 1570- 75-Ctgs: Brown and gray limestone, black shale.
- 1575- 83-Ctgs: Same.
- 1583- 92-Ctgs: Same and sandy limestone.
- 1592- 98-Ctgs: Same.
- 1598-1605-Ctgs: Same and sandy limestone.
- 1605- 10-Ctgs: Same and sandstone frag.

Hartselle

- 1610- 18-Ctgs: Brown hard medium-grained sandstone, shale lenses noted.
- 1621- 27-Ctgs: Medium to fine-grained sand and sandstone.
- 1627- 33-Ctgs: Same. Sand with crystal faces.
- 1633- 41-Ctgs: Same. Sandstone very hard.
- 1641- 50-Ctgs: Same.
- 1650- 55-Ctgs: Brown coarse and medium-grained sandstone. Impression of **brachiopods** noted. Part of sandstone somewhat like conglomerate; gray sandy shale.
- 1655- 62-Ctgs: Medium to coarse-grained sand and sandstone.
- 1662- 68-Ctgs: Medium to coarse-grained sand, green shale, from above ?
- 1668- 77-Ctgs: Medium-grained sand.
- 1677- 97-Ctgs: Same.
- 1697-1705-Ctgs: Same and fine-grained sand.
- 1705- 18-Ctgs: Same.
- 1718- 19-Ctgs: Medium to fine-grained sand.

Hartselle**Summary**

Pennsylvanian	.....	to 1101'
Bangor	 1101'	to 1605-10'
Hartselle	 1605-10'	to 1719' T.D.

G. D. Rose

First National Bank of Birmingham #2

W/2 of NW/4 of SE/4

Sec. 30—T 12 S—R 7 W

Walker County, Ala.

Elev. approx. 643 ft.

Began June 27, 1945

0- 10-Ctgs: Medium-grained sand.

Pennsylvanian

- 10- 15-Ctgs: Medium and fine-grained sand.
15- 20-Ctgs: Medium and fine-grained sand and sandstone and brown claystone; gray shale and coal frag.
20- 25-Ctgs: Gray fine-grained sandstone and sandy shale. Coal frag.
25- 30-Ctgs: Medium-grained sand.
30- 35-Ctgs: Gray hard fine-grained sandstone and sand, brown claystone, gray sandy shale.
35- 40-Ctgs: Same and gray sandy mic. shale.
40- 45-Ctgs: Same and gray mic., carb. shale.
50- 55-Ctgs: Gray fine-grained sand, sandstone and sandy mic., carb. shale.
55- 60-Ctgs: Same with more mic., carb. shale.
60- 65-Ctgs: Same with increasing amount of shale.
65- 70-Ctgs: Same.
70- 75-Ctgs: Same. Coal frag.
75- 80-Ctgs: Same and brown claystone.
80- 85-Ctgs: Fine-grained sand and sandstone and shale frag.
85- 90-Ctgs: Same.
90- 95-Ctgs: Fine-grained sand.
95- 100-Ctgs: Same and medium-grained sand.
100- 105-Ctgs: Same and gray and black carb. shale.
105- 20-Ctgs: Same.
120- 25-Ctgs: Dark gray mic., carb. sandy shale and brown claystone.
130- 35-Ctgs: Medium-grained sand and sandstone.
135- 70-Ctgs: Fine-grained sand.
170- 75-Ctgs: Medium-grained etched sand.
175- 85-Ctgs: Same.
190-Ctgs: Same and fine-grained sand.
195-Ctgs: Same with shale noted.
200-Ctgs: Gray sandy mic., carb. shale.
205-Ctgs: Same and lime frag.; brown claystone.
205- 35-Ctgs: Same as preceding.
235- 40-Ctgs: Black sandy mic. shale and brown claystone.
240- 45-Ctgs: Same and sand.
245- 310-Ctgs: Same as preceding.
310- 15-Ctgs: Medium to coarse-grained sand, gray shale frag.
315- 25-Ctgs: Same.
325- 30-Ctgs: Same and gray mic., carb. sandy shale.

- 330- 35-Ctgs: Same and sandy shale.
 335- 40-Ctgs: Same.
 340- 45-Ctgs: Same with more sandy shale.
 345- 50-Ctgs: Fine-grained sand and gray shale.
 350- 55-Ctgs: Gray mic., carb. sandy shale and sand.
 355- 70-Ctgs: Same as preceding.
 370- 75-Ctgs: Black shale; sand noted.
 Ostracods.
 375- 85-Ctgs: Same.
 385- 90-Ctgs: Same with sandy shale.
 390- 95-Ctgs: Dark gray mic., carb. sandy shale.
 395- 410-Ctgs: Same as preceding.
 410- 15-Ctgs: Same and brown claystone.
 415- 20-Ctgs: Same.
 420- 25-Ctgs: Gray and black mic., carb. shale and brown claystone;
 sand.
 425- 30-Ctgs: Same.
 430- 35-Ctgs: Fine-grained sandstone with brown stain.
 Crinoid stems noted.
 435- 40-Ctgs: Fine-grained sand and sandstone with brown stain.
 Crinoid stems.
 440- 45-Ctgs: Same and gray shale.
 445- 50-Ctgs: Gray hard fine-grained sandstone and sandy mic. shale.
 450- 95-Ctgs: Same as preceding.
 495- 500-Ctgs: Same with coarse-grained sand.
 500- 10-Ctgs: Same.
 510- 15-Ctgs: Fine-grained sand and sandstone.
 515- 20-Ctgs: Same.
 525- 30-Ctgs: Same and medium-grained sand.
 530- 35-Ctgs: Same and brown stained medium-grained sand and sand-
 stone.
 535- 40-Ctgs: Fine-grained sand and sandstone.
 540- 45-Ctgs: Same with fossil wood frag. and brown claystone; and
 medium-grained sandstone.
 545- 50-Ctgs: Same and coarse-grained sandstone.
 550- 55-Ctgs: Medium to fine-grained sand and sandy shale.
 555- 60-Ctgs: Same.
 560- 65-Ctgs: Same and brown claystone.
 565- 70-Ctgs: Gray sandy mic. shale and brown claystone.
 570- 75-Ctgs: Gray mic., carb. sandy shale, brown claystone and sand.
 575- 80-Ctgs: Gray fine-grained sandstone and sandy mic. shale, brown
 claystone.
 580- 605-Ctgs: Same as preceding.
 605- 10-Ctgs: Medium-grained sand and sandstone.
 610- 15-Ctgs: Same.
 615- 20-Ctgs: Same. Carb. shale.
 620- 25-Ctgs: Same.
 625- 30-Ctgs: Same with coarse sand.
 630- 35-Ctgs: Same with coarse sand and sandstone.

- 635- 40-Ctgs: Coarse-grained sand.
640- 45-Ctgs: Same and medium-grained sand.
645- 50-Ctgs: Medium-grained sand and sandstone.
650- 55-Ctgs: Coarse-grained sand and sandstone and shale noted.
655- 60-Ctgs: Same with medium-grained sand.
660- 65-Ctgs: Coarse to fine-grained sand and shale frag.
665- 70-Ctgs: Same and gray sandy shale.
670- 75-Ctgs: Gray fine-grained sand and sandstone, shale.
675- 80-Ctgs: Same.
680- 85-Ctgs: Same and mic. sandy shale.
685- 90-Ctgs: Very fine-grained sand.
690- 95-Ctgs: Med. to fine-grained sand and sandy shale.
695- 700-Ctgs: Very fine sand.
700- 05-Ctgs: Fine-grained sand.
705- 10-Ctgs: Same and sandstone and sandy shale.
710- 15-Ctgs: Coarse and medium-grained sand.
715- 20-Ctgs: Same.
720- 25-Ctgs: Same with fine sand.
725- 30-Ctgs: Coarse to fine-grained sand and gray carb. shale.
730- 35-Ctgs: Dark gray mic., carb. sandy shale, coal frag., brown claystone and sand.

735- 40-Ctgs: Same.
740- 45-Ctgs: Same with sand.
745- 50-Ctgs: Fine-grained sand and sandy shale.
750- 55-Ctgs: Same and brown claystone.
755- 80-Ctgs: Same as preceding.
780- 85-Ctgs: Same with med. and coarse-grained sand.
785- 90-Ctgs: Medium to fine-grained sand.
790- 95-Ctgs: Same with coarse-grained sand.
795- 800-Ctgs: Same. Coal frag.
800- 05-Ctgs: Very hard sandstone, coarse-grained sand and sandy shale, brown claystone.

805- 10-Ctgs: Same.
810- 15-Ctgs: Medium to fine-grained sandstone, sandy shale.
815- 20-Ctgs: Same.
820- 25-Ctgs: Same with more sandy shale and brown claystone.
825- 30-Ctgs: Medium to fine-grained sand.
830- 35-Ctgs: Same.
835- 40-Ctgs: Same with carb. shale with plant frag.
840- 45-Ctgs: Same.
845- 50-Ctgs: Fine-grained sand and carb. shale.
850- 55-Ctgs: Medium to fine-grained sand.
855- 60-Ctgs: Fine-grained sand.
860- 65-Ctgs: Fine-grained sand.
865- 70-Ctgs: Same and medium-grained sand.
870- 75-Ctgs: Same.
875- 80-Ctgs: Same with coarser sand.
880- 85-Ctgs: Same.
885- 90-Ctgs: Medium to fine-grained sand.
890- 95-Ctgs: Same.

895- 900-Ctgs:	Coarse-grained sand.
900- 05-Ctgs:	Coarse to fine-grained sand.
905- 10-Ctgs:	Medium to coarse-grained sand.
910- 15-Ctgs:	Coarse to medium-grained sand.
915- 20-Ctgs:	Medium to fine-grained sand.
920- 25-Ctgs:	Same.
925- 30-Ctgs:	Medium-grained sand and sandstone.
930- 35-Ctgs:	Same and coarse-grained sand.
935- 45-Ctgs:	Medium-grained sand.
945- 50-Ctgs:	Coarse to fine-grained sand.
950- 55-Ctgs:	Coarse-grained sand.
955- 60-Ctgs:	Medium to coarse-grained sand.
960- 70-Ctgs:	Same and gravel.
970- 75-Ctgs:	Coarse-grained sand and gravel.
975- 80-Ctgs:	Same.
980- 85-Ctgs:	Coarse to fine-grained sand.
985- 90-Ctgs:	Coarse and medium-grained sand and gravel.
990- 95-Ctgs:	Coarse, medium and fine-grained sand.
995-1000-Ctgs:	Light gray limestone.

Bangor

1000- 05-Ctgs:	Light gray limestone.
1005- 10-Ctgs:	Light gray limestone.
1010- 15-Ctgs:	Same and light green shale.
1015- 20-Ctgs:	Same.
1020- 25-Ctgs:	Same with chert.
1025- 30-Ctgs:	Light gray limestone.
1030- 65-Ctgs:	Same.
1070- 75-Ctgs:	Light gray crystalline limestone with drab-colored limestone.
1075- 80-Ctgs:	Same and green shale. Oolitic limestone.
1085- 90-Ctgs:	Light gray oolitic limestone.
1090-1105-Ctgs:	Same as preceding.
1105- 10-Ctgs:	Same with light gray limestone.
1110- 15-Ctgs:	Same. Crinoid stems noted.
1115- 20-Ctgs:	Same.
1120- 25-Ctgs:	Light gray oolitic and crystalline limestone.
1125- 30-Ctgs:	Light gray and brown crystalline limestone, green shale.
1130- 40-Ctgs:	Same.
1140- 45-Ctgs:	Green shale and light gray and brown limestone.
1145- 50-Ctgs:	Same.
1150- 55-Ctgs:	Light gray limestone.
1155- 60-Ctgs:	Brown and light gray crystalline limestone. Crinoid stems. Bryozoa noted.
1160- 65-Ctgs:	Same. Crinoid stems noted.
1165- 70-Ctgs:	Light gray crystalline limestone and oolitic limestone.

- 1170- 75-Ctgs: Light gray oolitic and crystalline limestone.
 Crinoid stems.
 Endothyra sp.
 Small gastropods.
- 1175-1225-Ctgs: Same as preceding.
- 1225- 30-Ctgs: Same and light brown finely granular limestone.
- 1230- 35-Ctgs: Same and crystalline limestone.
- 1235- 40-Ctgs: Same.
- First gas
- 1240- 45-Ctgs: Same.
- 1245- 50-Ctgs: Light brown granular and crystalline limestone.
- 1250- 55-Ctgs: Brown finely granular and crystalline limestone.
- 1255- 60-Ctgs: Light brown crystalline limestone.
- 1260- 65-Ctgs: Gray and brown coarsely crystalline limestone.
- 1265- 85-Ctgs: Same as preceding.
- 1285- 90-Ctgs: Same and granular limestone.
- 1290- 95-Ctgs: Same with finely granular limestone and brown chert.
 Crinoid stems.
- 1295-1300-Ctgs: Brown crystalline and finely granular limestone. Chert.
- 1300- 10-Ctgs: Same.
- 1310- 15-Ctgs: Same. Black shale frag. noted.
- 1315- 20-Ctgs: Gray crystalline limestone.
- 1320- 25-Ctgs: Same.
- 1325- 30-Ctgs: Same and gray shale.
 Crinoid stems.
 Bryozoa.
- 1330- 35-Ctgs: Same.
- 1335- 40-Ctgs: Black shale, brown limestone. **Crinoid stems.** Pyrite.
- 1340- 45-Ctgs: Same.
 Shell frag.
 Ostracods.
 Small gastropods.
 Crinoid stems.
 Bryozoa.
- 1345- 50-Ctgs: Brown limestone and fossiliferous black shale.
 Crinoid stems.
 Gastropods.
 Bryozoa.
- 1350- 55-Ctgs: Same.
- 1355- 60-Ctgs: Same, very fossiliferous.
- 1360- 65-Ctgs: Gray oolitic limestone.
- 1365- 70-Ctgs: Gray oolitic and finely granular limestone.
 Crinoid stems noted.
- 1370- 75-Ctgs: Gray lime and black shale.
- 1375- 80-Ctgs: Same
 Crinoid stems noted.
- 1380- 85-Ctgs: Same.
 Crinoid stems.
 Bryozoa abundant.
- 1385- 90-Ctgs: Same.

- 1390- 95-Ctgs: Same and brown limestone.
 1395-1400-Ctgs: Brown granular limestone, black shale with **Fenestella Bryozoa**.
 1400- 05-Ctgs: Same with greenish gray lime and black shale. Bryozoa.
 1410- 15-Ctgs: Same.
 1415- 20-Ctgs: Light gray and brown lime.
 1420- 40-Ctgs: Same.
 1440- 45-Ctgs: Gray hard medium and fine-grained sandstone and sand, stained brown.

Hartselle

- 1445- 50-Ctgs: Same and medium-grained sand and sandstone with brown stain.

First oil

- 1450- 55-Ctgs: Same with brown stain.
 The test for oil was strongly positive.
 1455- 60-Ctgs: Same.
 The test for oil was strongly positive.
 1460- 65-Ctgs: Same.
 The test for oil less strong than in preceding.
 1465- 75-Ctgs: Same.
 1475- 80-Ctgs: Same with gray shale.
 1480- 85-Ctgs: Medium-grained sand and sandstone with asphaltic stain.
 1485- 90-Ctgs: Medium to fine-grained sand and sandstone, part with asphaltic stain.
 1490- 95-Ctgs: Medium-grained sand and sandstone.
 1495-1500-Ctgs: Same.
 1500- 05-Ctgs: Gray very hard fine-grained sandstone.
 1505- 10-Ctgs: Same and shaly sandstone.
 1510- 50-Ctgs: Same.
 1550- 55-Ctgs: Gray hard fine-grained sandstone and sandy shale.
 1555- 65-Ctgs: Same.
 1565- 70-Ctgs: Same with brown claystone.
 1570- 75-Ctgs: Same and greenish gray shale.
 1575-1600-Ctgs: Same.
 1600- 05-Ctgs: Same with black shale and sandy shale.

Gasper ?

- 1605- 20-Ctgs: Same as preceding.
 1620- 25-Ctgs: Same.
 1625- 30-Ctgs: Same with considerable brown claystone.
 1630- 35-Ctgs: Same.
 1635- 40-Ctgs: Black shale.
 1640- 45-Ctgs: Same with hard fine-grained sandstone.

Bethel ?

- 1645- 50-Ctgs: Fine-grained sand and sandstone.
 1650- 55-Ctgs: Fine-grained sand and sandstone with slight brown stain.
 1655- 60-Ctgs: Same.
 1660- 65-Ctgs: Same with black shale, from above.

- 1665- 75-Ctgs: Same as preceding.
1675- 80-Ctgs: Dark gray hard fine-grained sandstone and black shale and sandy shale.
1680- 85-Ctgs: Fine-grained sand and black shale.
1685- 90-Ctgs: Black shale.
1690- 95-Ctgs: Black dense shale.
1695-1700-Ctgs: Same and brown claystone. Frag. of hard sandstone.
1700- 05-Ctgs: Same with fine-grained sand and sandstone.
1705- 10-Ctgs: Black shale and fine-grained sandstone.
1710- 15-Ctgs: Black shale.
1715- 20-Ctgs: Dense black shale.
1720- 25-Ctgs: Same and brown crystalline limestone.
Crinoid stems.

St. Genevieve ?

- 1725- 30-Ctgs: Same with more limestone.
1730- 35-Ctgs: Same.
1735- 40-Ctgs: Grayish brown limestone, green shale, fossiliferous.
1740- 45-Ctgs: Brown limestone, part oolitic.
1745- 50-Ctgs: Same.
1750- 55-Ctgs: Gray crystalline and slightly oolitic limestone.
1755- 60-Ctgs: Light gray crystalline limestone.

Tuscumbia

- 1760- 65-Ctgs: Light gray cherty limestone. White chert.
1765- 80-Ctgs: Same.
1780- 85-Ctgs: Gray to brown crystalline limestone.
1785- 90-Ctgs: Gray crystalline limestone.
Second gas
1790- 95-Ctgs: Light gray and brown limestone with white chert.
1795-1800-Ctgs: Same.
1800- 05-Ctgs: Gray and brown limestone.
1805- 10-Ctgs: Same.
1810- 15-Ctgs: Same and white chert noted.
1815- 20-Ctgs: Gray and brown cherty limestone.
1820- 35-Ctgs: Same.
1835- 40-Ctgs: Gray cherty limestone.
1840- 50-Ctgs: Same.
1850- 55-Ctgs: Light gray crystalline limestone.
1855- 60-Ctgs: Same with chert.
1860- 65-Ctgs: Light gray limestone and white chert.
1865- 70-Ctgs: Same.
1870- 75-Ctgs: Light gray very cherty limestone.
1875- 80-Ctgs: Same.
1880- 85-Ctgs: Brown limestone and chert.

Prob. Fort Payne

- 1885- 90-Ctgs: Same with brown stain.
1890-1910-Ctgs: Same.
1910- 15-Ctgs: Brown cherty limestone with brown stain.
1915- 20-Ctgs: Brown cherty limestone.

- 1920- 25-Ctgs: Brown chert and cherty limestone.
 1925- 30-Ctgs: Brown chert, some limestone.
 1930- 35-Ctgs: Brown chert and cherty limestone.
 1935- 40-Ctgs: Brown limestone, chert and cherty limestone.
 1940- 55-Ctgs: Same.
 1955- 60-Ctgs: Brown cherty limestone.
 1960- 65-Ctgs: Brown cherty and shaly limestone.
 1965- 70-Ctgs: Brown cherty limestone.
 1970- 75-Ctgs: Brown cherty limestone.
 1975- 85-Ctgs: Same.
 1990- 95-Ctgs: Dark brown limestone, chert, cherty limestone and shaly lime.
 1995-2000-Ctgs: Same and gray limestone.
 2000- 05-Ctgs: Dark gray limestone and light gray limestone.
 2005- 10-Ctgs: Dark brownish gray limestone, hard.
 2010- 15-Ctgs: Same, cherty.
 2015- 25-Ctgs: Same.
 2025- 30-Ctgs: Same with vivid green shale carrying finely divided pyrite.
 2030- 35-Ctgs: Vivid green shale, and black shale.

Chattanooga

- 2035- 40-Ctgs: Black shale with spores noted.
 2040- 45-Ctgs: Same and hard sandstone.
 2045- 50-Ctgs: Same with hard medium and coarse-grained sandstone, rounded grains noted.
 2050- 55-Ctgs: Green lime and shale with abundant **crinoid stems**.

Silurian

- 2055- 60-Ctgs: Same.
 2060- 65-Ctgs: Green hard lime and shaly lime.
 2065- 70-Ctgs: Green hard limestone.
 Crinoid stems and Ostracods noted.
 2070- 75-Ctgs: Green hard limestone very fossiliferous.
 2075- 80-Ctgs: Same.
 Coral frag. noted.
 2080- 85-Ctgs: Same, slightly pink-tinged.
 2085-2100-Ctgs: Same.
 2100- 05-Ctgs: Green and pink limestone with **crinoid stems**, green shaly lime.
 2105- 10-Ctgs: Same.
 2110- 15-Ctgs: Same and dark red lime and shale.
 Crinoid stems abundant.
 2115- 20-Ctgs: Same with **Ostracods**.
 2120- 25-Ctgs: Same with green and reddish brown shale.
 2125- 30-Ctgs: Green and dark red lime and reddish brown shale.
 Small brachiopods.
 Crinoid stems and Ostracods.
 2130- 35-Ctgs: Same.
 2135- 40-Ctgs: Dark red lime and shale, fossiliferous, yellowish limestone.

- 2140- 45-Ctgs: Green and red lime and dark red shale.
Ostracods.
Crinoid stems.
Small brachiopods.
- 2145- 50-Ctgs: Same.
- 2150- 55-Ctgs: Green and dark red lime, dark red shale, fossiliferous.
- 2155- 60-Ctgs: Green and dark red lime and red shale.
- 2160- 65-Ctgs: Green and dark red lime and dark red shale.
- 2165- 70-Ctgs: Greenish gray fossiliferous limestone, dark red lime.
- 2170- 75-Ctgs: Same and dark red lime.
- 2175- 85-Ctgs: Same.
- 2185- 90-Ctgs: Dark red lime, fossiliferous.
- 2190-2200-Ctgs: Same.
- 2200- 05-Ctgs: Same and pink lime.
- 2205- 10-Ctgs: Same with shaly lime.
- 2210- 20-Ctgs: Same.
- 2220- 25-Ctgs: Dark red shale and lime, vivid green shale frag.
- 2225- 35-Ctgs: Same.
- 2235- 40-Ctgs: Same with reworked **crinoid stems** and gray and red lime with phosphatic inclusions, dark green shaly lime.
- 2240- 45-Ctgs: Same with reworked **crinoid stems**.
- 2245- 50-Ctgs: Same with greenish gray crystalline limestone and dark gray shale.
Crinoid stems and Bryozoa reworked.
- 2250- 55-Ctgs: Dark greenish gray lime and limy shale.
- 2255- 60-Ctgs: Same.
- 2260- 65-Ctgs: Same with gray limestone carrying phosphatic ? material.
- 2265- 70-Ctgs: Greenish gray limestone and dark gray lime with abundant phosphatic material, reworked **crinoid stems**.
- 2270- 75-Ctgs: Same with gray granular limestone.
- 2275- 85-Ctgs: Same.
- 2285- 90-Ctgs: Dark gray granular limestone.
- 2290-2300-Ctgs: Same.
- 2300- 05-Ctgs: Same with gray phosphatic lime noted.
- 2305- 10-Ctgs: Same with gray phosphatic limestone.
- 2310- 15-Ctgs: Same, fossiliferous.
Brachiopod frag.
- 2315- 20-Ctgs: Same with dark red lime, fossiliferous, and dark red flattened concretions.
- 2320- 25-Ctgs: Same.
- 2325- 30-Ctgs: Red fossiliferous limestone with flattened concretions and gray sandy limestone with phosphatic inclusions.
- 2330- 35-Ctgs: Red fossiliferous limestone with flattened concretions and gray to black fossiliferous limestone, phosphatic.
- 2335- 40-Ctgs: Same with hard black lime, phosphatic inclusions noted.
- 2340- 45-Ctgs: Dark gray and black lime with black phosphatic inclusions, and red limestone.

- 2345- 50-Ctgs: Gray and black phosphatic lime and shaly lime, fossiliferous.
 2350- 55-Ctgs: Same with yellowish inclusions in part of limestone.
 2355- 60-Ctgs: Dark gray phosphatic limestone and black lime.
 2360- 85-Ctgs: Same.
 2385- 90-Ctgs: Same, fossiliferous.
 2390- 95-Ctgs: Same.
 2395-2400-Ctgs: Black and gray lime. Chert noted.
 2400- 05-Ctgs: Same. Chert noted.
 2405-2510-Ctgs: Same.
 2510- 15-Ctgs: Same with black shale.
 2515- 20-Ctgs: Same with brown dense limestone.

Black River

- 2520- 25-Ctgs: Brown dense limestone with chert.
 2525- 30-Ctgs: Same.
 2530- 35-Ctgs: Same with more chert.
 2535- 40-Ctgs: Brown and gray dense cherty limestone, fossiliferous.
 2540- 45-Ctgs: Same.
 2545- 50-Ctgs: Brown dense limestone.
 2550- 70-Ctgs: Same.
 2570- 75-Ctgs: Same and buff-colored granular limestone.
 2575- 80-Ctgs: Same with buff-colored limestone.
 2585-2600-Ctgs: Same.
 2600- 05-Ctgs: Same with brown chert noted.
 2605- 10-Ctgs: Same.
 2610- 15-Ctgs: Buff-colored dense and granular limestone, slightly fossiliferous.
 2615- 20-Ctgs: Same.
 2620- 25-Ctgs: Same and brown limestone.
 2625- 30-Ctgs: Same.
 2630- 35-Ctgs: Buff-colored and brown limestone.
 2635- 45-Ctgs: Same.
 2645- 50-Ctgs: Brown and buff-colored limestone.
 2650- 55-Ctgs: Brown limestone.
 2655- 60-Ctgs: Same.
 2660- 65-Ctgs: Dark gray dense limestone.
 2665- 70-Ctgs: Same.
 2670- 75-Ctgs: Dark gray dense limestone.
 2675- 80-Ctgs: Same.
 2680- 85-Ctgs: Same and brownish gray limestone, slightly fossiliferous. Ostracods.
 2685- 90-Ctgs: Brown dense limestone.
 2690- 95-Ctgs: Same.
 2695-2700-Ctgs: Brown limestone.
 2700- 05-Ctgs: Brown and gray limestone, fossiliferous.
 2705- 10-Ctgs: Dark gray and brown limestone with shaly lime.
 2710- 15-Ctgs: Same, fossiliferous.
 2715- 20-Ctgs: Brown limestone, fossiliferous, with shale.
 2720- 25-Ctgs: Brown and drab-colored dense and granular limestone.

2725-	35-Ctgs:	Same.
2735-	40-Ctgs:	Brown dense and granular limestone.
2740-	45-Ctgs:	Grayish brown hard dense limestone.
2745-	60-Ctgs:	Same.
2760-	65-Ctgs:	Dark brownish gray dense limestone.
2765-	85-Ctgs:	Same.
2785-	90-Ctgs:	Same with light brown limestone.
2790-2800-	Ctgs:	Same.
2800-	05-Ctgs:	Same and shaly lime.
2805-	10-Ctgs:	Same.
2810-	15-Ctgs:	Light greenish gray dense limestone.
2815-	20-Ctgs:	Same and brown limestone.
2820-	25-Ctgs:	Light greenish gray and brown dense limestone.
2825-	30-Ctgs:	Same.
2830-	35-Ctgs:	Greenish gray dense limestone.
2835-	45-Ctgs:	Same.
2845-	50-Ctgs:	Light greenish gray dense limestone.
2850-	55-Ctgs:	Same and dark gray limestone.
2855-	60-Ctgs:	Light greenish gray dense and slightly granular limestone.
2860-	65-Ctgs:	Same.
2865-	70-Ctgs:	Light gray dense and finely granular limestone.
2870-	75-Ctgs:	Same with increasing amount of finely granular limestone.
2880-	85-Ctgs:	Light gray and buff-colored finely granular dolomite.
2885-	90-Ctgs:	Same.
2890-	95-Ctgs:	Buff-colored dolomite.
2895-2900-	Ctgs:	Same.
2900-	05-Ctgs:	Same.

Ordovician

2905-	10-Ctgs:	Light gray dolomite.
2910-	15-Ctgs:	Dark brown limestone and light gray dense limestone.
2915-	20-Ctgs:	Brown and gray granular and dense limestone. Ostracods noted.
2920-	25-Ctgs:	Light gray granular and dense limestone.
2925-	30-Ctgs:	Light bluish gray dolomite.
2930-	35-Ctgs:	Light gray dolomite.
2935-	40-Ctgs:	Light gray dolomite. Ostracods noted.
2940-	50-Ctgs:	Same.
2950-	55-Ctgs:	Light gray dolomite.
2955-	60-Ctgs:	Same.
2960-	65-Ctgs:	Light gray dolomite.
2965-	70-Ctgs:	Light bluish gray dolomite.
2970-	75-Ctgs:	Light gray dolomite.
2975-	80-Ctgs:	Same and light gray and brown dense limestone.
2980-	85-Ctgs:	Light gray dolomite.
2985-	90-Ctgs:	Light gray dolomite. Very heavy show of oil.
2990-	95-Ctgs:	Same and brownish limestone. Very heavy show of oil.

- 2995-3000-Ctgs: Light gray and brown dolomite.
Moderately heavy show of oil.
- 3000- 05-Ctgs: Light gray dolomite.
 3005- 10-Ctgs: Light gray dolomite.
 3010- 15-Ctgs: Light gray dolomite.
 3015- 20-Ctgs: Light gray dolomite and limestone and dark greenish gray brittle shale.
 3020- 25-Ctgs: Same.
 3025- 30-Ctgs: Light gray dense limestone.
 3030- 35-Ctgs: Light gray and bluish gray dolomite.
 3035- 40-Ctgs: Light gray dense limestone.
 3040- 45-Ctgs: Same.
 3045- 50-Ctgs: Light bluish gray dolomite.
 3050- 55-Ctgs: Same with brown hard limestone.
 3055- 60-Ctgs: Gray dolomite and brown hard limestone.
 3060- 65-Ctgs: Light gray dolomite.
 3065- 70-Ctgs: Same and dark gray brittle shale frag.
 3070- 75-Ctgs: Same with medium gray brittle shale.
 3075- 80-Ctgs: Bluish gray dolomite and brittle medium gray shale.
Very light show of oil.
 3080- 85-Ctgs: Light gray dolomite and limestone.
 3085- 90-Ctgs: Same.
Very light show of oil.
- 3090- 95-Ctgs: Light bluish gray dolomite and medium gray shale.
 3095-3100-Ctgs: Light bluish and greenish gray dolomite and medium gray brittle shale.
 3100- 05-Ctgs: Light gray and bluish gray dolomite.
 3105- 10-Ctgs: Same.
 3110- 15-Ctgs: Light gray dolomite, dark gray shale frag.
 3115- 20-Ctgs: Light bluish gray dolomite and medium gray brittle shale.
 3120- 25-Ctgs: Light gray dolomite and dense limestone.
 3125- 40-Ctgs: Same.
 3140- 45-Ctgs: Light gray dolomite and dark greenish shale.
 3145- 50-Ctgs: Light gray dense limestone and greenish gray dolomite.
 3150- 55-Ctgs: Light greenish gray dolomite and dense lime.
 3155- 60-Ctgs: Same and green shale frag.
 3160- 65-Ctgs: Light greenish dolomite and gray limestone.
 3165- 70-Ctgs: Same with rounded quartz grains.
 3170- 75-Ctgs: Light green dolomite, dark grayish green shaly lime, pyrite noted. Occasional rounded sand grains.
 3175- 80-Ctgs: Same with pyrite noted.
 3180- 85-Ctgs: Greenish dolomite and shale and gray lime, with occasional rounded sand grains.
- Prob. Knox**
- 3185- 90-Ctgs: Same with light gray dolomite. Pyrite.
 3190- 95-Ctgs: Same.
 3195-3200-Ctgs: Light gray dolomite and occasional rounded sand grains.
 3200- 05-Ctgs: Light gray dolomite.

- 3205- 10-Ctgs: Same with rounded frosted sand grains.
 3210- 15-Ctgs: Same with limestone.
 3215- 20-Ctgs: Light gray dolomite.

Summary

Pennsylvanian	to.....	995'
Bangor	995-1000'	to.....1440-45'
Hartselle	1440-45'	to.....1600'
Gasper	1600'	to.....1645'
Bethel & St. Genevieve ?	1645'	to.....1755'
Tuscumbia	1755'	to.....1880'
Fort Payne	1880'	to.....1920'
Chattanooga Shale	2030-35'	to.....2050'
Silurian	at.....	2050'
In Ordovician	at.....	2340'
Prob. Knox	at.....	3185'

Glenn D. Rose Oil & Gas Co.

Ulysses #1

Cor N/2 of NW/4 of SE/4

Sec. 6—T 13 S—R 6 W

Walker County, Ala.

Elev. 578 ft

Completed August 2, 1945

- 25- 30-Ctgs: Light gray hard medium-grained sandstone with mica.

Pennsylvanian

- 30- 35-Ctgs: Same.
 35- 40-Ctgs: Same. Brown claystone noted.
 40- 45-Ctgs: Same.
 45- 50-Ctgs: Coarse-grained sandstone with slight oil stain; black mic. carb. sandy shale, brown claystone.
 55- 60-Ctgs: Coarse-grained sandstone.
 80- 85-Ctgs: Coarse-grained sandstone, black mic. carb. sandy shale.
 85- 90-Ctgs: Black mic. carb. sandy shale and sandstone.
 90- 95-Ctgs: Same and hard fine-grained sandstone.
 100- 05-Ctgs: Black mic., carb. sandy shale, brown claystone.
 105- 10-Ctgs: Coal and black shale.
 110- 15-Ctgs: Gray hard fine-grained sandstone, black mic., carb. shale and sandy shale, coal frag.
 115- 20-Ctgs: Coarse and medium-grained sandstone, black mic. carb. shale.
 120- 25-Ctgs: Coarse-grained sand and sandstone, mic., and black mic. carb. shale.
 130- 35-Ctgs: Medium-grained sand and sandstone and black shale frag.
 140- 45-Ctgs: Coarse-grained sandstone with mica, black shale noted.
 150- 55-Ctgs: Same.

- 155- 60-Ctgs: Same with black carb. shale.
- 160- 65-Ctgs: Coarse-grained sand and sandstone and black shale frag.
- 165- 70-Ctgs: Same.
- 170- 75-Ctgs: Very coarse-grained sand and sandstone, brown claystone, black carb. shale.
- 175- 80-Ctgs: Same with mica.
- 180- 85-Ctgs: Medium-grained and coarse sand and sandstone, quartz grains with crystal faces, black carb. shale.
- 185- 90-Ctgs: Same.
- 190- 95-Ctgs: Same and brown claystone frag.
- 195- 200-Ctgs: Same.
- 200- 05-Ctgs: Medium-grained sand and sandstone and dark gray sandy mic. shale.
- 205- 10-Ctgs: Same with dark gray carb. shale and coarse-grained sandstone.
- 210- 15-Ctgs: Medium to coarse-grained sand and sandstone, dark gray to black mic. carb. sandy shale.
- 215- 20-Ctgs: Same.
- 220- 25-Ctgs: Coarse to medium-grained sand and sandstone, quartz grains with crystal faces, dark gray to black carb. shale.
- 225- 30-Ctgs: Medium-grained sand and dark gray carb. shale.
- 230- 35-Ctgs: Dark gray to black shale and sandy shale and dark brown claystone, slightly calcareous.
- 235- 40-Ctgs: Same.
- 240- 45-Ctgs: Gray to black mic., carb. shale, part sandy, and dark brown claystone slightly calcareous. Pyrite noted.
- 245- 50-Ctgs: Same with hard fine-grained sandstone.
- 255- 60-Ctgs: Gray hard fine-grained mic. sandstone and gray sandy mic. carb. shale.
- 270- 75-Ctgs: Light gray hard fine-grained mic. sandstone and sandy shale.
- 275- 80-Ctgs: Gray hard fine-grained sandstone, dark gray to black sandy mic. shale.
- 280- 85-Ctgs: Gray hard fine-grained mic. sandstone and sandy shale.
- 285- 300-Ctgs: Same.
- 300- 05-Ctgs: Same and carb. shale.
- 305- 10-Ctgs: Same.
- 310- 15-Ctgs: Gray hard fine-grained sandstone with mica and carb. sandy shale.
- 315- 25-Ctgs: Same.
- 325- 30-Ctgs: Same with medium-grained hard sandstone.
- 330- 40-Ctgs: Same.
- 340- 45-Ctgs: Gray and black carb. shale and brown claystone, gray fine-grained sandstone.
- 345- 50-Ctgs: Gray and black carb. sandy shale, brown claystone.
- 350- 55-Ctgs: Gray and black shale and brown claystone and sandstone frag.
- 355- 70-Ctgs: Same.

- 370- 75-Ctgs: Brown slightly calcareous claystone, dark gray to black carb. shale.
Endothyra sp.
- 375- 80-Ctgs: Gray and black sandy shale, brown claystone.
- 380- 85-Ctgs: Same.
Ostracods.
- 385- 90-Ctgs: Gray sandy shale, black shale.
Crinoid stems noted.
- 390- 95-Ctgs: Brown limestone, **shell impressions** and **frag.** and gray shale.
- 395- 400-Ctgs: Same.
Ostracods and crinoid stems.
- 400- 05-Ctgs: Brown limestone, gray and black shale.
- 405- 10-Ctgs: Gray to black sandy mic. shale.
Shell frag. noted.
- 410- 15-Ctgs: Gray and black mic. sandy shale and brown limestone.
Endothyra sp.
- 415- 20-Ctgs: Gray to black sandy mic. shale.
- 420- 25-Ctgs: Dark gray to black mic. sandy shale.
- 425- 30-Ctgs: Same.
Ostracods and crinoid stems noted.
- 430- 35-Ctgs: Gray and black shale, part sandy, brown claystone.
Ostracods.
- 435- 40-Ctgs: Gray to black sandy shale, lime frag.
- 440- 45-Ctgs: Gray sandy shale, brown limestone and claystone.
- 445- 50-Ctgs: Same.
Ostracods.
- 450- 55-Ctgs: Gray and black sandy shale, brown claystone and lime noted.
- 455- 60-Ctgs: Same.
Ostracods.
- 460- 65-Ctgs: Gray and black sandy shale and brown claystone.
- 465- 70-Ctgs: Same.
- 470- 75-Ctgs: Same. Crystalline calcite noted.
- 475- 80-Ctgs: Same and sandstone frag.
- 480- 85-Ctgs: Gray sandy shale and hard fine-grained sandstone.
Crinoid stems noted.
- 485- 90-Ctgs: Same with black carb. shale.
- 490- 95-Ctgs: Gray hard fine-grained sandstone and gray and black shale.
- 495- 500-Ctgs: Same. Crystalline calcite.
- 500- 05-Ctgs: Gray medium-grained hard mic. sandstone with brown stain, black carb. shale.
- 505- 10-Ctgs: Same with crystalline calcite.
- 510- 15-Ctgs: Medium to coarse-grained sand and sandstone, gray and black carb. shale and crystalline calcite.
- 515- 20-Ctgs: Medium-grained sand and sandstone; black shale noted.
- 520- 25-Ctgs: Medium to coarse-grained sand and sandstone, black shale frag.
- 525- 30-Ctgs: Medium-grained sand and sandstone and shale frag.

- 775- 80-Ctgs: Gray hard fine-grained sandstone and sandy shale and sand.
- 780- 85-Ctgs: Gray to black sandy shale with mica and brown claystone.
- 785- 90-Ctgs: Same with carb. material.
- 790- 800-Ctgs: Same.
- 800- 05-Ctgs: Same with more carb. material.
- 805- 10-Ctgs: Same.
- 810- 15-Ctgs: Same with fine-grained sandstone and sand.
- 815- 20-Ctgs: Gray fine-grained sand and brown claystone, and carb. shale.
- 820- 25-Ctgs: Medium-grained sand and sandstone; coarse sand noted. Shale frag.
- 825- 30-Ctgs: Same and brown claystone.
- 830- 35-Ctgs: Same and brown lime noted.
- 835- 40-Ctgs: Same.
- 840- 45-Ctgs: Medium-grained sand and sandstone and sandy shale.
- 845- 50-Ctgs: Same and brown claystone.
- 850- 55-Ctgs: Coarse-grained sand and gravel.
- 855- 60-Ctgs: Medium, fine and coarse-grained sand.
- 860- 65-Ctgs: Coarse-grained sand and gravel. Shale frag.
- 865- 95-Ctgs: Same.
- 895- 900-Ctgs: Same with medium-grained sand and black shale, from above ?
- 900- 10-Ctgs: Same.
- 910- 15-Ctgs: Medium-grained sand and sandstone.
- 915- 25-Ctgs: Same.
- 925- 30-Ctgs: Same. Coarse-grained sand noted.
- 930- 35-Ctgs: Same.
- 935- 40-Ctgs: Medium-grained sand and sandstone.
- 940- 45-Ctgs: Medium-grained sand and sandstone.
- 945- 50-Ctgs: Same with gravel noted.
- 950- 55-Ctgs: Medium-grained sand, gray to black sandy shale.
- 955- 75-Ctgs: Same.
- 975- 80-Ctgs: Medium to coarse-grained sand and sandstone, brown claystone, gray to black shale.
- 980- 95-Ctgs: Same.
- 995-1000-Ctgs: Medium to fine-grained sand and sandstone.
- 1000- 05-Ctgs: Medium to coarse-grained sand and sandstone and shale frag.
- 1005- 10-Ctgs: Same with gravel and brown claystone.
- 1010- 15-Ctgs: Same.
- 1015- 20-Ctgs: Medium to coarse-grained sand, shale frag.
- 1020- 25-Ctgs: Same.
- 1025- 30-Ctgs: Same with gravel.
- 1030- 35-Ctgs: Same with brown claystone.
- 1035- 40-Ctgs: Same with gray hard fine-grained sandstone and increasing amount of brown claystone.
- 1040- 45-Ctgs: Gray hard fine-grained mic. sandstone, coarse-grained sand and brown claystone.

- 1045- 50-Ctgs: Gray hard fine-grained mic. sandstone, sandy shale and brown claystone.
- 1050- 55-Ctgs: Same with carb. material, coal and pyrite.
- 1055- 60-Ctgs: Carbonaceous material and shale, sandy shale frag., coarse-grained sandstone frag., gray shale with siderite concretions.
- 1060- 65-Ctgs: Siderite concretions in abundance, brown claystone, coarse sand and conglomerate frag., gray shale and carb. material.
- 1065- 70-Ctgs: Same with gray shale and carb. shale.
- 1070- 75-Ctgs: Light gray and greenish gray limestone.
- Bangor**
- 1075- 80-Ctgs: Gray limestone, slightly chert.
- 1085- 90-Ctgs: Gray limestone and green shale frag.
- 1095-1100-Ctgs: Same.
- 1100- 05-Ctgs: Gray limestone and green shale noted.
Crinoid stems.
- 1105- 10-Ctgs: Light gray crystalline limestone, green shale frag.
- 1110- 15-Ctgs: Same.
Crinoid stems.
- 1115- 20-Ctgs: Same.
- 1120- 25-Ctgs: Gray crystalline limestone.
- 1125- 30-Ctgs: Same.
Crinoid stems.
- 1130- 35-Ctgs: Same.
- 1135- 40-Ctgs: Same.
Crinoid stems.
- 1140- 45-Ctgs: Same, fossiliferous.
- 1145- 50-Ctgs: Same. Pyrite and greenish gray shale noted. Siderite concretions.
- 1150- 55-Ctgs: Same.
Small brachiopod.
- 1155- 60-Ctgs: Same with green shale.
Brachiopod and small gastropods.
- 1160- 65-Ctgs: Same with oolitic limestone.
- 1165- 70-Ctgs: Same with increasing amount of oolitic limestone.
Brachiopod.
- 1170- 75-Ctgs: Same.
- 1175- 80-Ctgs: Gray oolitic and brown crystalline limestone.
- 1180- 85-Ctgs: Same. Brown chert noted.
- 1185- 90-Ctgs: Same with green shale.
- 1190-1210-Ctgs: Same.
- 1210- 15-Ctgs: Gray oolitic limestone.
Crinoid stems.
- 1215- 20-Ctgs: Light gray and brown crystalline and oolitic limestone.
Crinoid stems, greenish gray shale.
- 1220- 25-Ctgs: Same. Gray shale and **Ostracods** noted.
- 1225- 35-Ctgs: Same.
- 1235- 40-Ctgs: Brown and gray crystalline limestone, brown chert noted; greenish gray shale.

- 1240- 45-Ctgs: Light gray oolitic limestone, greenish gray finely granular limestone, brown chert, **crinoid stems**.
- 1245- 50-Ctgs: Light gray oolitic limestone, brown chert frag., soft green and black shale.
- 1250- 55-Ctgs: Same.
Small gastropods noted.
- 1255- 60-Ctgs: Same and light gray crystalline limestone.
Small brachiopods.
- 1260- 65-Ctgs: Light gray oolitic limestone.
Ostracods and crinoid stems noted.
- 1265- 70-Ctgs: Same.
Crinoid stems and small gastropods.
- 1270- 75-Ctgs: Same.
Bryozoa noted.
- 1275- 80-Ctgs: Same. Limestone very fossiliferous.
Crinoid stems abundant.
Small brachiopods.
- 1280- 90-Ctgs: Same.
- 1290- 95-Ctgs: Same.
Pelecypods noted.
- 1295-1300-Ctgs: Light brown crystalline limestone.
Ostracods and crinoid stems.
- 1300- 05-Ctgs: Brown crystalline limestone.
- 1305- 10-Ctgs: Brown crystalline and granular limestone.
- 1310- 15-Ctgs: Brown crystalline and granular limestone with **crinoid stems**.
- 1315- 20-Ctgs: Same.
- 1320- 25-Ctgs: Same.
Shell impressions noted.
- 1325- 30-Ctgs: Gray and brown granular and crystalline limestone.
- 1330- 35-Ctgs: Same.
- 1335- 40-Ctgs: Light gray crystalline limestone.
- 1340- 45-Ctgs: Light gray crystalline limestone.
- 1345- 50-Ctgs: Same.
- 1350- 55-Ctgs: Same with brown and bluish chert and granular limestone.
- 1355- 60-Ctgs: Same.
- 1360- 65-Ctgs: Brownish gray granular and crystalline limestone. Chert noted.
- 1365- 70-Ctgs: Brown crystalline and granular limestone, fossiliferous.
Chert noted.
Ostracods.
- 1370- 75-Ctgs: Brown crystalline and granular limestone.
- 1375- 80-Ctgs: Brown crystalline limestone.
Bryozoa.
- 1380- 85-Ctgs: Brown crystalline and granular limestone.
Bryozoa.
- 1385- 90-Ctgs: Same.
Bryozoa frag.
- 1390- 95-Ctgs: Same.

- 1395-1400-Ctgs: Dark gray shale, brown lime.
Crinoid stems.
Bryozoa.
Ostracods.
Fenestella Bryozoa.
- 1400- 05-Ctgs: Same, very fossiliferous.
Archimedes frag.
Bryozoa and crinoid stems abundant.
- 1405- 10-Ctgs: Dark gray to black shale.
Crinoid stems and Bryozoa abundant.
Fenestella Bryozoa and Brachiopods.
- 1410- 15-Ctgs: Same with **Archimedes frag.**
- 1415- 20-Ctgs: Same with brown limestone.
- 1420- 25-Ctgs: Brown dense and granular limestone.
- 1425- 30-Ctgs: Grayish brown oolitic limestone and crystalline limestone, fossiliferous.
- 1430- 35-Ctgs: Light brown oolitic limestone.
- 1435- 40-Ctgs: Same and crystalline limestone.
- 1440- 50-Ctgs: Same.
- 1450- 55-Ctgs: Same with cherty limestone.
- 1455- 60-Ctgs: Brown crystalline and granular limestone. Chert noted.
- 1460- 65-Ctgs: Same.
- 1465- 70-Ctgs: Same, fossiliferous.
- 1470- 75-Ctgs: Same.
- 1475- 80-Ctgs: Same with oolitic limestone.
- 1480- 85-Ctgs: Same.
- 1485- 90-Ctgs: Same with sand.
- 1490-1505-Ctgs: Same.
- 1505- 10-Ctgs: Medium-grained hard sandstone stained brown, black shale from above.

Hartselle

- 1510- 20-Ctgs: Same.
- 1520- 25-Ctgs: Same and material from above.
- 1525- 30-Ctgs: Same with black shale.
- 1530- 35-Ctgs: Same.
- 1535- 40-Ctgs: Medium-grained sand and sandstone stained brown, with black shale noted.
- 1540- 50-Ctgs: Same.
- 1550- 55-Ctgs: Same with material from above.
- 1555- 60-Ctgs: Same with black sandy shale.
- 1560- 75-Ctgs: Same.
- 1575- 80-Ctgs: Same with mica noted.
- 1580- 85-Ctgs: Gray hard fine-grained sandstone.
- 1585- 90-Ctgs: Same with shale lenses.
- 1590- 95-Ctgs: Same with shale lenses.
- 1595-1600-Ctgs: Same.
- 1600- 05-Ctgs: Same, very fine-grained and hard sandstone.
- 1610- 15-Ctgs: Black shale, sandstone frag. and sandy shale.
- 1615- 20-Ctgs: Same.

- 1620- 25-Ctgs: Same with fine-grained sandstone.
1625- 30-Ctgs: Hard fine-grained sandstone.
1630- 35-Ctgs: Same.

Gap in samples

- 1650- 55-Ctgs: Gray hard fine-grained sandstone with sandy shale. Pyrite.

Gasper

- 1660- 65-Ctgs: Same with black shale and brown claystone.
1665- 70-Ctgs: Same with more black shale and sandy shale.
1675- 80-Ctgs: Black shale and sandy shale and brown claystone.
1685- 90-Ctgs: Black shale and brown claystone.
1695-1700-Ctgs: Same and sandy shale.
1705- 10-Ctgs: Gray hard fine-grained sandstone and black shale.
1710- 15-Ctgs: Gray hard fine-grained sandstone and black shale, and sandy shale.
1715- 20-Ctgs: Same.
1720- 28-Ctgs: Black shale and sandy shale and hard fine-grained sandstone.

Bethel

- 1728- 33-Ctgs: Hard medium to fine-grained sand and sandstone stained brown; shale from above.
1733- 38-Ctgs: Same with dense black shale.
1740- 45-Ctgs: Black shale and medium-grained sandstone stained brown.
1745- 50-Ctgs: Black shale and gray medium to fine-grained sandstone.
1750- 55-Ctgs: Same.
1755- 60-Ctgs: Dense black shale and brown quartzitic fine-grained sandstone.
1760- 65-Ctgs: Same.
1765- 70-Ctgs: Gray hard medium-grained sandstone and dense black shale.
1770- 75-Ctgs: Dense black shale and medium-grained sandstone.
1775- 80-Ctgs: Dense black shale.
1780- 85-Ctgs: Same with brown fossiliferous limestone.

St. Genevieve

- 1785- 90-Ctgs: Same with more brown limestone, fossiliferous. Crinoid stems.
1790- 95-Ctgs: Gray oolitic limestone, greenish limestone, and brown fossiliferous limestone, part with brown stain. Ostracods.
1795-1800-Ctgs: Brown fossiliferous limestone. Crinoid stems noted.
1800- 05-Ctgs: Greenish gray oolitic limestone.
1805- 10-Ctgs: Greenish gray crystalline limestone, fossiliferous.
1810- 15-Ctgs: Same and brown limestone, very fossiliferous.
1815- 20-Ctgs: Brown crystalline limestone and bluish chert.

Tuscumbia

- 1820- 65-Ctgs: Same.

- 1865- 70-Ctgs: Same with **crinoid stems** and **small pelecypods** noted.
 1870- 75-Ctgs: Same with increasing amount of bluish chert.
 1875- 95-Ctgs: Same.
 1895-1900-Ctgs: Same with increasing amount of bluish chert.
 1900- 05-Ctgs: Light gray and brown limestone with bluish chert.
 1905- 10-Ctgs: Same with bluish and brown chert.
 1910- 15-Ctgs: Same.
 1915- 20-Ctgs: Same. Limestone with slight brown stain.
 1920- 45-Ctgs: Same.
 1945- 50-Ctgs: Brown limestone with slight oil stain, bluish chert.
 1950- 55-Ctgs: Same with more chert.

Prob. Fort Payne

- 1955- 60-Ctgs: Brown limestone, brown and bluish chert.
 1960- 65-Ctgs: Same.
 1965- 70-Ctgs: Brown limestone and chert.
 1970- 85-Ctgs: Same.
 1985- 90-Ctgs: Same.
 1990- 95-Ctgs: Brown limestone and cherty limestone and chert.
 1995-2000-Ctgs: Same.
 2000- 05-Ctgs: Brown limestone and chert.
 2005- 10-Ctgs: Same and gray limestone noted.
 2010- 15-Ctgs: Same.
 2015- 20-Ctgs: Brownish black shale with spores noted, brown and gray medium-grained hard sandstone.

Chattanooga

- 2020- 25-Ctgs: Same. Pyrite noted.
 2025- 30-Ctgs: Greenish gray to medium gray limestone.

Silurian

- 2030- 35-Ctgs: Same, chert.
 2035- 40-Ctgs: Same.
 2045- 50-Ctgs: Green and gray limestone with considerable chert.
 2060- 65-Ctgs: Light gray and greenish gray limestone, somewhat cherty, greenish gray shale.
 Crinoid stems.

Silurian

- 2065- 70-Ctgs: Same with chert.
 Crinoid stems.
 2070- 75-Ctgs: Same. Pyrite noted.
 2075- 80-Ctgs: Same with **crinoid stems** and considerable chert.
 2080- 85-Ctgs: Green cherty limestone.

Gap in samples

- 2120- 25-Ctgs: Light gray and green cherty limestone.
 2130- 35-Ctgs: Green and yellowish limestone with pyrite.
 2145- 50-Ctgs: Same with green shaly lime and pyrite.
 2150- 55-Ctgs: Green and yellowish crystalline limestone. Shaly limestone noted.
 Crinoid stems noted.

- 2160- 65-Ctgs: Same with **crinoid stems**.
2165- 70-Ctgs: Same with pinkish lime noted.
2170- 75-Ctgs: Green, yellowish, dark reddish brown limestone and shale, fossiliferous.
2175- 80-Ctgs: Same with more reddish brown limestone and shaly lime, fossiliferous.
2180- 90-Ctgs: Same.
2190- 95-Ctgs: Same and gray shaly lime.
2195-2200-Ctgs: Greenish gray shaly lime, fossiliferous, pink, green and yellow lime noted.
2200- 10-Ctgs: Same.
2210- 15-Ctgs: Same with reddish brown shale.
Bryozoa noted.
2215- 20-Ctgs: Same.
2220- 25-Ctgs: Greenish gray limestone and shaly lime, fossiliferous.
2225- 30-Ctgs: Same.
2230- 35-Ctgs: Greenish gray limestone and shaly lime, fossiliferous.
Bilobites sp.
2235- 40-Ctgs: Same, very fossiliferous.
Brachiopods.
Bryozoa.
Crinoid plates and stems.
2260- 65-Ctgs: Same.
Small brachiopods and other fossils.
Bryozoa.
2265- 70-Ctgs: Greenish gray lime and shaly lime, fossiliferous
Crinoid stems. Reddish brown lime noted.
2280- 85-Ctgs: Reddish brown shale and lime, fossiliferous, greenish gray shaly lime, fossiliferous.
2285- 90-Ctgs: Same.
Crinoid stems.
2290- 95-Ctgs: Same with **Ostracods** and **Crinoid stems**.
Brachiopod noted.
2295-2300-Ctgs: Dark red and reddish brown limestone and shaly lime, greenish gray and pink limestone.
Crinoid stems and shells noted.
2300- 05-Ctgs: Dark red to purple limestone and shaly lime, pink and green limestone.
2305- 10-Ctgs: Same.
2310- 15-Ctgs: Dark red and pink limestone and shaly lime, greenish gray and pink lime.
2320- 25-Ctgs: Reddish brown and dark red limestone and shaly lime, greenish gray and pink limestone.
Ostracods and crinoid stems.
2330- 35-Ctgs: Pink and reddish brown limestone and shaly lime, and yellowish limestone.
2335- 40-Ctgs: Same with increasing amount of pink limestone.
2340- 45-Ctgs: Same.
Brachiopod noted.

- 2345- 50-Ctgs: Pink fossiliferous limestone, dark red to purple limestone and shaly lime.
- 2350- 60-Ctgs: Same and greenish gray lime and shaly lime.
- 2360- 65-Ctgs: Purple and reddish brown and yellowish shale and shaly lime, green shale and limestone.
- 2365- 70-Ctgs: Same with dark red to purple concretionary lime.
- 2370- 75-Ctgs: Pink, gray and yellowish lime, dark red shale and shaly lime, part with concretions.
Reworked crinoid stems and Bryozoa noted.
Bilobites sp.
- 2380- 85-Ctgs: Red and yellowish concretionary limestone.
Reworked small gastropods and crinoid stems and Bryozoa.
- 2385- 90-Ctgs: Same with gray and greenish gray sandy limestone.
- 2390- 95-Ctgs: Same.
- 2395-2400-Ctgs: Same with gray sandy phosphatic lime.
- 2400- 05-Ctgs: Same with more gray sandy phosphatic lime.
- 2405- 10-Ctgs: Gray sandy phosphatic limestone, fossiliferous.
- 2410- 15-Ctgs: Gray limestone with black phosphatic inclusions, fossiliferous.
- 2415- 20-Ctgs: Same with dark red phosphatic limestone.
- 2420- 25-Ctgs: Gray to black phosphatic limestone, fossiliferous; dark red phosphatic limestone noted.
- 2430- 35-Ctgs: Dark red limestone and shale with concretionary material, gray and yellowish limestone.
Coral ? frag.
- 2435- 40-Ctgs: Same.
Reworked small shells.
- 2440- 50-Ctgs: Same.
- 2450- 55-Ctgs: Same with black and gray phosphatic limestone.
- 2455- 60-Ctgs: Black and gray phosphatic limestone.
- Ordovician**
- 2460- 65-Ctgs: Same with black and gray phosphatic limestone.
- 2465- 70-Ctgs: Black and gray phosphatic limestone.
- 2475- 80-Ctgs: Gray to black phosphatic limestone, fossiliferous.
- 2480-2500-Ctgs: Same.
- Gap in samples**
- 2565- 70-Ctgs: Gray to black phosphatic limestone.
- 2570- 75-Ctgs: Same.
- Gap in samples**
- 2610- 15-Ctgs: Brown dense and cherty limestone.
- Black River**
- 2615- 20-Ctgs: Same, fossiliferous.
- 2620- 35-Ctgs: Same.
- 2650- 95-Ctgs: Same.
- 2700- 05-Ctgs: Same and crystalline limestone.
- 2720- 25-Ctgs: Drab-colored crystalline limestone.
- 2725- 45-Ctgs: Same.

- 2745- 50-Ctgs: Drab-colored crystalline and cherty limestone.
2750- 55-Ctgs: Same and brownish gray limestone.
2755- 60-Ctgs: Same.
2760- 65-Ctgs: Grayish brown finely crystalline limestone.
2765- 75-Ctgs: Same.
2775- 80-Ctgs: Same, slightly fossiliferous.
2780- 85-Ctgs: Grayish brown dense and finely granular limestone.
2785-2800-Ctgs: Same.
2800- 05-Ctgs: Brown crystalline and finely granular limestone.
2805- 10-Ctgs: Same.
2810- 15-Ctgs: Grayish brown crystalline and dense limestone, **brachio-
pod impressions**.
2815- 35-Ctgs: Same.
2840- 45-Ctgs: Brown and grayish brown dense limestone with **brachio-
pod impressions**.
2845- 50-Ctgs: Same with brown granular limestone noted.
2850- 95-Ctgs: Same.
2895-2900-Ctgs: Gray and brown lithographic limestone, somewhat darker
than preceding.
2905- 10-Ctgs: Light greenish gray lithographic limestone and brown
lithographic limestone, from above.
2910- 35-Ctgs: Same.
2935- 40-Ctgs: Same with buff-colored lithographic limestone.
2940- 50-Ctgs: Same.
2950- 55-Ctgs: Greenish gray dense limestone and darker limestone, from
above.
2955- 60-Ctgs: Light greenish gray dense limestone, brown limestone
from above ?
2960- 65-Ctgs: Same and buff-colored lithographic limestone.
2965- 70-Ctgs: Same.
2975- 80-Ctgs: Same and greenish gray finely granular limestone.
2985- 95-Ctgs: Same.
3000- 05-Ctgs: Same with more granular limestone.

Gap in samples

- 3020- 25-Ctgs: Gray and greenish gray sucrose limestone.
3025- 40-Ctgs: Same.
3040- 45-Ctgs: Light green sucrose dolomite.
3050- 55-Ctgs: Same.

Gap in samples

- 3065- 70-Ctgs: Same.
3070- 75-Ctgs: Gray sucrose dolomite.
Ostracod noted.

- 3075-3165-Ctgs: Same.

Gap in samples

- 3195-3210-Ctgs: Same.

Gap in samples

- 3220- 25-Ctgs: Same.

Gap in samples

3250-	55-Ctgs:	Light green sucrose dolomite.
3255-	60-Ctgs:	Same.
Gap in samples		
3280-	85-Ctgs:	Gray and greenish gray dolomite.
3285-3300-	Ctgs:	Light green and gray dolomite.
3300-	05-Ctgs:	Light green, more vivid than the preceding, and gray dolomite.
3305-	10-Ctgs:	Light green and gray dolomite with fine pyrite inclusions.
3310-	20-Ctgs:	Same.
3320-	25-Ctgs:	Same with rounded frosted quartz grains.
3325-	30-Ctgs:	Same.
3330-	35-Ctgs:	Same with increasing amount of gray dolomite. Rounded frosted quartz grains.
3335-	45-Ctgs:	Same.
3345-	50-Ctgs:	Light gray dolomite.
Knox		
3350-	55-Ctgs:	Light gray dolomite.
3360-	65-Ctgs:	Same.
3365-	70-Ctgs:	Same and limestone.
3370-	85-Ctgs:	Same.
3385-	90-Ctgs:	Same and light brown dolomite.
3390-3400-	Ctgs:	Same.
3400-	05-Ctgs:	Light brown dolomite.
3405-	30-Ctgs:	Same.
3430-	35-Ctgs:	Same. Green shale noted, from above ?
3435-	40-Ctgs:	Same with dense limestone and medium green shale from above ?
3445-	50-Ctgs:	Same.
3450-	55-Ctgs:	Same.

Summary

Pennsylvanian	.....	to	1070'
Pennington & Bangor	 1070'	to	1505'
Hartselle	 1505'	to	1665'
Gasper	 1665'	to	1720-28'
Bethel	 1720-28'	to	1780'±
St. Genevieve	 1780-85'	to	1815'
Tuscumbia	 1815'	to	1950'
Fort Payne	 1950'	to	2015'
Chattanooga	 2015'	to	2025'
Silurian	 2025'	to	2455'
Ordovician	 2455'	to	3345'
Knox	 3345'	to	3455' T.D.

Mr. J. H. Deason and H. E. Drummonds

DeBardeleben #1

SE/4 of NW/4

Sec. 6—T 14 S—R 5 W

Walker County, Ala.

Elev. 470 ft. $\pm$

Began August 24, 1945

Completed March 19, 1946

- 10- 15-Ctgs: Medium to coarse-grained sand and sandstone with mica and gray to black carb. shale frag. and brown calcareous clayey sandstone and brown claystone.

Pennsylvanian

- 15- 20-Ctgs: Same with more brown claystone.
 20- 25-Ctgs: Same.
 30- 35-Ctgs: Same with fine sand.
 35- 40-Ctgs: Same.
 40- 45-Ctgs: Same with buff-colored hard clay. Carbonaceous material noted.
 45- 50-Ctgs: Medium-grained sand and sandstone with gray hard clay and siderite concretions.
 50- 55-Ctgs: Gray fine-grained sand and mic. sandstone with siderite concretions.
 55- 60-Ctgs: Dark gray mic. sandy shale, brown clay and sand.
 60- 65-Ctgs: Same.
 65- 70-Ctgs: Fine silty sand.
 70- 75-Ctgs: Sandy shale and fine-grained sand and gray sandy mic. shale.
 75- 80-Ctgs: Same.
 80- 85-Ctgs: Gray mic. sandy shale.
 85- 90-Ctgs: Same.
 90- 95-Ctgs: Black mic. sandy shale.
 95- 100-Ctgs: Dark gray fine-grained sandy shale.
 100- 05-Ctgs: Same.
 108- 10-Ctgs: Dark gray mic. sandy shale.
 110- 20-Ctgs: Same.
 125- 30-Ctgs: Same.
 Small gastropods.
 Brachiopod spines, frag., noted.
 130- 35-Ctgs: Same and brown claystone.
 135- 40-Ctgs: Same and brown claystone.
 140- 50-Ctgs: Same.
 150- 55-Ctgs: Same.
 Shell frag. noted
 155- 60-Ctgs: Same and small **gastropods**.
 160- 65-Ctgs: Gray and black hard shale and brown claystone. Brown lime noted.
 Ostracods.
 Shell frag.

- 165- 70-Ctgs: Black shale and brown claystone. Light brown lime frag.
Ostracods.
Small Gastropods.
Endothyra ? sp.
- 170- 75-Ctgs: Same.
Ostracods.
Shell frag.
- 175- 80-Ctgs: Same.
Crinoid stems.
Ostracods.
Shell frag.
- 180- 90-Ctgs: Same.
- 190- 95-Ctgs: Same.
Crinoid stems noted.
- 195- 200-Ctgs: Same.
- 200- 05-Ctgs: Same and light gray coarse-grained sandstone.
- 205- 10-Ctgs: Black and dark gray shale.
- 210- 15-Ctgs: Light gray coarse-grained sandstone and sandy mic. shale.
- 215- 20-Ctgs: Gray hard fine-grained sandstone and mic. shale.
- 220- 30-Ctgs: Same.
- 230- 35-Ctgs: Dark gray shale, brown claystone, sand.
- 235- 40-Ctgs: Dark gray to black shale and sandy shale and brown claystone.
- 240- 50-Ctgs: Gray sandy shale; siderite concretions; carbonaceous material noted.
- 250- 55-Ctgs: Same and brown claystone.
- 255- 60-Ctgs: Medium gray sandy shale and fine-grained mic. sandstone and brown claystone and coal frag.
- 260- 65-Ctgs: Gray and black sandy shale and carb. material.
- 265- 70-Ctgs: Gray hard sandy shale with mica and brown claystone.
- 270- 75-Ctgs: Same.
- 275- 80-Ctgs: Light gray hard fine-grained sandstone and shale. Coal frag. noted.
- 280- 85-Ctgs: Light gray hard fine-grained sandstone and sandy shale with mica.
- 285- 300-Ctgs: Same.
- 300- 05-Ctgs: Same and dark gray shale.
- 305- 10-Ctgs: Black and gray shale.
- 310- 25-Ctgs: Same.
- 325- 30-Ctgs: Gray hard shale and light gray hard fine-grained sandstone. Shale with small siderite concretions.
- 330- 35-Ctgs: Same.
- 335- 40-Ctgs: Dark gray sandy shale.
- 340- 45-Ctgs: Gray to black hard shale.
- 345- 50-Ctgs: Same.
- 350- 55-Ctgs: Same and sandy shale.
- 355- 60-Ctgs: Gray sandy shale and fine-grained sandstone.
- 360- 400-Ctgs: Same.
- 400- 05-Ctgs: Gray to black sandy shale.

405-	10-Ctgs:	Same.
410-	15-Ctgs:	Black sandy shale.
415-	20-Ctgs:	Same.
420-	25-Ctgs:	Dense black shale.
425-	30-Ctgs:	Same and gray sandy shale.
430-	35-Ctgs:	Gray sandy shale and fine-grained sandstone.
435-	40-Ctgs:	Gray hard fine-grained sandstone and sandy shale.
440-	50-Ctgs:	Same.
450-	55-Ctgs:	Black sandy shale and gray fine-grained sandstone.
455-	60-Ctgs:	Black shale and fine-grained sandstone.
460-	65-Ctgs:	Black shale.
465-	70-Ctgs:	Same.
470-	75-Ctgs:	Black and gray shale and fine sand.
475-	80-Ctgs:	Black sandy shale.
480-	85-Ctgs:	Black hard shale.
485-	90-Ctgs:	Same.
490-	95-Ctgs:	Black shale and fine sand.
495-	500-Ctgs:	Black shale.
500-	05-Ctgs:	Same.
505-	10-Ctgs:	Same.
510-	15-Ctgs:	Dense black shale.
515-	20-Ctgs:	Dense black shale.
520-	25-Ctgs:	Medium-grained sand.
525-	30-Ctgs:	Same.
530-	35-Ctgs:	Same. Mica noted.
535-	90-Ctgs:	Same.
590-	95-Ctgs:	Same with fine sand.
595-	605-Ctgs:	Same.
605-	10-Ctgs:	Same and coal.
610-	15-Ctgs:	Very fine sand and small amount of coal.
615-	20-Ctgs:	Same and fine-grained sandstone.
620-	25-Ctgs:	Fine-grained sand.
625-	30-Ctgs:	Medium to fine-grained sand.
630-	35-Ctgs:	Medium-grained sand.
635-	40-Ctgs:	Same.
640-	45-Ctgs:	Same with fine-grained sand.
645-	50-Ctgs:	Medium-grained sand.
650-	60-Ctgs:	Same.
660-	65-Ctgs:	Light gray coarse-grained sand.
665-	70-Ctgs:	Coarse-grained sand and sandstone and medium-grained sand.
670-	80-Ctgs:	Same.
680-	85-Ctgs:	Light gray coarse-grained sand and sandstone.
685-	90-Ctgs:	Light gray medium-grained sand.
690-	95-Ctgs:	Same.
695-	700-Ctgs:	Same and coarse-grained sand.
700-	05-Ctgs:	Coarse and medium-grained sand and sandstone.
705-	20-Ctgs:	Same.
720-	25-Ctgs:	Black shale and sandy shale and brown claystone.
725-	30-Ctgs:	Light gray coarse-grained sand.

730-	35-Ctgs:	Same.
735-	40-Ctgs:	Same with medium-grained sand and gray shale.
740-	45-Ctgs:	Coarse to fine sand and gray shale.
745-	50-Ctgs:	Same.
750-	55-Ctgs:	Same and gray sandy shale and sandstone.
755-	60-Ctgs:	Coarse-grained sand and gray shale and sandy shale.
760-	65-Ctgs:	Same and fine-grained sand and sandstone.
765-	75-Ctgs:	Same.
775-	80-Ctgs:	Same with medium-grained sandstone.
780-	85-Ctgs:	Same and hard fine-grained sandstone.
785-	90-Ctgs:	Same and sandy shale.
790-	95-Ctgs:	Light gray fine-grained sand and hard sandstone and small amount of coarse-grained sand.
795-	800-Ctgs:	Same.
800-	05-Ctgs:	Brown sandy lime with mica.
805-	10-Ctgs:	Same and coarse to fine-grained sand.
810-	15-Ctgs:	Medium-grained sand and sandstone and coal frag.
815-	20-Ctgs:	Same and medium-grained sand with asphaltic material.
820-	25-Ctgs:	Medium to fine-grained sand, shale frag.
825-	35-Ctgs:	Same.
835-	40-Ctgs:	Medium to fine-grained sand.
840-	45-Ctgs:	Gray and brown sandstone.
845-	50-Ctgs:	Medium to coarse-grained sandstone.
850-	55-Ctgs:	Coarse and medium-grained sand and sandstone.
855-	60-Ctgs:	Coarse to fine-grained sand and sandstone.
860-	65-Ctgs:	Fine-grained sand and occasional coarse sand grains.
865-	70-Ctgs:	Same.
670-	75-Ctgs:	Medium to fine-grained sand and shale frag.
875-	80-Ctgs:	Same.
880-	85-Ctgs:	Medium-grained sand.
885-	90-Ctgs:	Same.
890-	95-Ctgs:	Same and fine-grained sand.
895-	970-Ctgs:	Medium and fine-grained sand.
970-	75-Ctgs:	Medium and coarse-grained sand.
975-	80-Ctgs:	Same.
980-	85-Ctgs:	Medium to fine-grained sand.
985-	90-Ctgs:	Medium to coarse-grained sand.
990-	95-Ctgs:	Same.
995-	1000-Ctgs:	Medium to fine-grained sand.
1000-	05-Ctgs:	Same.
1005-	10-Ctgs:	Same and coarse-grained sand.
1015-	20-Ctgs:	Same.
1020-	25-Ctgs:	Medium to coarse-grained sand.
1025-	30-Ctgs:	Same.
1030-	35-Ctgs:	Fine and medium-grained sand.
1035-	40-Ctgs:	Medium-grained sand.
1040-	45-Ctgs:	Medium to fine-grained sand.
1045-	50-Ctgs:	Medium-grained sand.
1050-	55-Ctgs:	Medium to fine-grained sand.
1055-	95-Ctgs:	Medium to fine-grained sand.

- 1095-1100-Ctgs: Same.
1100- 05-Ctgs: Medium to fine-grained sand.
1105- 10-Ctgs: Same with coarser sand.
1110- 15-Ctgs: Same with brown claystone and lime frag. Red shale noted.

Pennington and Bangor

- 1115- 20-Ctgs: Same with light gray lime.
1120- 25-Ctgs: Red and green shale, light gray limestone, coarse sand.
1125- 35-Ctgs: Same.
1135- 50-Ctgs: Medium gray limestone and greenish shale.
1150- 70-Ctgs: Same with dark red shale.
1170- 85-Ctgs: Light gray limestone, red and green shale.
1185- 90-Ctgs: Same with cherty limestone noted.
1190-1210-Ctgs: Same as preceding.
1210- 15-Ctgs: Green and red shale, light gray limestone.
1255- 60-Ctgs: Light gray limestone.

Bangor

- 1260- 65-Ctgs: Light gray limestone with dark red and green shale.
1265- 70-Ctgs: Dark red and green shale and light gray limestone frag.
1270- 75-Ctgs: Same.
1275- 80-Ctgs: Gray calcareous clay and lime, red shale and green shale.
1280- 85-Ctgs: Gray oolitic limestone with shale from above.
1285- 90-Ctgs: Same.
1290- 95-Ctgs: Same and gray granular limestone.
1295-1300-Ctgs: Light gray crystalline limestone, dark red and green shale.
1305- 10-Ctgs: Light gray limestone.
1315- 20-Ctgs: Light gray limestone.
Crinoid stems noted.
1320- 25-Ctgs: Same.
1315- 25-Ctgs: Light gray limestone.
1325- 41-Ctgs: Same.
1341- 46-Ctgs: Same.
Crinoid stems.
1346- 52-Ctgs: Light gray limestone and bluish gray arg. lime.
1350- 55-Ctgs: Light gray oolitic limestone.
1355- 60-Ctgs: Light gray oolitic limestone.
Crinoid stems.
Small gastropods.
1360- 65-Ctgs: Same.
1365- 70-Ctgs: Light gray oolitic limestone.
Crinoid stems.
Small gastropods.
1370- 75-Ctgs: Same.
1375- 80-Ctgs: Gray oolitic and crystalline limestone.
1380- 85-Ctgs: Same, fossiliferous.
Small gastropods and crinoid stems.
1385- 90-Ctgs: Light gray oolitic limestone.
1390- 95-Ctgs: Same.
Crinoid stems noted.

- 1400- 05-Ctgs: Gray limestone.
- 1405- 10-Ctgs: Gray limestone.
Crinoid stems noted.
- 1410- 15-Ctgs: Light gray limestone.
Crinoid stems.
- 1415- 20-Ctgs: Light gray crystalline limestone.
- 1420- 25-Ctgs: Light gray crystalline limestone, dark gray lime and shale noted.
Crinoid stems.
- 1425- 30-Ctgs: Same.
- 1435- 40-Ctgs: Brown crystalline limestone, fossiliferous.
- 1440- 45-Ctgs: Same and finely granular limestone.
- 1445- 50-Ctgs: Gray limestone.
- 1450- 55-Ctgs: Light gray limestone with brownish chert.
- 1455- 60-Ctgs: Same.
- 1460- 65-Ctgs: Light brown limestone.
- 1465- 70-Ctgs: Same.
- 1470- 75-Ctgs: Light gray crystalline limestone.
- 1475- 80-Ctgs: Brown and gray crystalline and granular limestone, fossiliferous.
- 1480- 90-Ctgs: Black shale; **crinoid stems; Fenestella Bryozoa, other Bryozoa**; Gray and brown limestone noted.
- 1490-1500-Ctgs: Same.
- 1500- 05-Ctgs: Medium and dark brown limestone.
Brachiopod spines.
Crinoid stems.
Bryozoa.
- 1505- 10-Ctgs: Brown limestone and black shale.
- 1510- 15-Ctgs: Same.
- 1515- 20-Ctgs: Gray and brown limestone, slightly oolitic, fossiliferous; **Bryozoa**; black shale with **Fenestella Bryozoa**.
- 1520- 25-Ctgs: Brown crystalline and oolitic limestone, gray, green and black fossiliferous shale.
- 1525- 30-Ctgs: Brown fossiliferous limestone, gray argillaceous lime and shale; **Bryozoa**.
- 1530- 35-Ctgs: Gray and brown limestone and black shale, green fossiliferous shale frag.
Bryozoa.
- 1535- 40-Ctgs: Gray limestone and black shale.
Bryozoa.
- 1540- 50-Ctgs: Same.
- 1555- 60-Ctgs: Brown lime and black shale.
- 1560- 65-Ctgs: Same and gray lime.
- 1565- 70-Ctgs: Dark gray granular limestone and shale.
Crinoid stems and Bryozoa.
- 1570- 75-Ctgs: Gray and brown lime and black shale.
Crinoid stems.
- 1575- 80-Ctgs: Gray granular limestone and shale and brown limestone.
Fenestella Bryozoa.
Crinoid stems.

- 1580- 85-Ctgs: Medium-grained sand and sandstone with asphaltic stain; considerable pyrite, gray to black shale, from above.

Hartselle

- 1585- 90-Ctgs: Medium-grained sand and sandstone with asphaltic stain.
1595-1600-Ctgs: Fine-grained sand and sandstone with asphaltic stain and gray and greenish gray shale, from above ?
1600- 05-Ctgs: Fine-grained sand and sandstone with asphaltic stain.
1605- 10-Ctgs: Fine-grained sand and sandstone with slight asphaltic stain.
1610- 15-Ctgs: Fine sand and black shale.
1615- 20-Ctgs: Medium to fine-grained sand and sandstone with asphaltic stain.
1620- 30-Ctgs: Same.
1630- 35-Ctgs: Fine-grained sand with slight asphaltic stain.
1635- 40-Ctgs: Same with bluish gray hard sandstone.
1640- 50-Ctgs: Same.
1645- 50-Ctgs: Bluish gray hard fine-grained sandstone with black mic., carb. shale. Pyrite.
1650- 75-Ctgs: Same.
1675- 80-Ctgs: Gray hard fine-grained sandstone and gray sandy shale; black shale.
1680- 90-Ctgs: Same.
1690- 95-Ctgs: Same and sandy shale.
1695-1705-Ctgs: Same.
1705- 10-Ctgs: Gray hard fine-grained sandstone and dark gray sandy shale.
1710- 15-Ctgs: Bluish gray hard fine-grained sandstone and gray to black sandy shale.
1715- 20-Ctgs: Black shale, sandy shale and small amount of bluish hard fine-grained sandstone; black shale, fossiliferous, with **Fenestella Bryozoa**.
1720- 25-Ctgs: Bluish gray hard fine-grained sandstone and sandy shale.
1725- 30-Ctgs: Bluish gray hard fine-grained sandstone, slightly calcareous and sandy shale.
1730- 35-Ctgs: Same.
1735- 40-Ctgs: Same with black shale.
1740- 45-Ctgs: Dark gray to black sandy shale and bluish gray hard fine-grained sandstone.

Prob. Gasper

- 1745- 50-Ctgs: Black and gray sandy shale.
1750- 55-Ctgs: Same. Brown claystone.
1755- 60-Ctgs: Same.
1760- 65-Ctgs: Black shale and sandy shale, gray hard fine-grained sandstone.
1765- 80-Ctgs: Same.
1780- 85-Ctgs: Black shale and sandy shale, and brown claystone.
1785- 90-Ctgs: Black shale with sandstone frag.
1790- 95-Ctgs: Black shale.
1795-1800-Ctgs: Black shale.

- 1800- 10-Ctgs: Same.
 1810- 15-Ctgs: Black shale with asphaltic sandstone frag. Pyrite.
Bethel
- 1815- 20-Ctgs: Medium to fine-grained sand and sandstone with asphaltic stain.
 1820- 25-Ctgs: Same with black shale.
 1825- 30-Ctgs: Same.
 1835- 40-Ctgs: Brown lime and black shale.
 Brachiopod spines.
- St. Genevieve**
- 1840- 45-Ctgs: Same.
 1845- 50-Ctgs: Brown oolitic limestone. Fenestella Bryozoa. Pyrite.
 Black shale from above.
 1850- 55-Ctgs: Same.
 1855- 60-Ctgs: Brownish gray oolitic limestone and black fossiliferous shale from above.
 1860- 65-Ctgs: Greenish gray lime and shale and light brown limestone.
 Crinoid stems.
 Broken brachiopods noted.
 1865- 70-Ctgs: Brown crystalline limestone and bluish chert.
- Prob. Tuscumbia**
- 1870- 75-Ctgs: Gray and brown crystalline limestone, fossiliferous.
 1875- 80-Ctgs: Brown and gray crystalline limestone.
 1880- 90-Ctgs: Same.
 1890- 95-Ctgs: Gray and brown crystalline limestone.
 1895-1900-Ctgs: Brown and gray crystalline limestone, fossiliferous.
 1900- 05-Ctgs: Brown crystalline limestone.
 1905- 10-Ctgs: Brown and gray crystalline limestone.
 1910- 15-Ctgs: Same with chert.
 1915- 20-Ctgs: Gray and brown crystalline limestone with brown stain.
 Bryozoa.
 Crinoid stems.
 1920- 25-Ctgs: Same with more brown stain.
 1925- 30-Ctgs: Same with crinoid stems.

Tests with Chloroform were made on samples from 1900' to 1930' with the result that samples from 1915-1925' gave distinct oil show. 1925-30' also had show of oil.

Summary

Pennsylvanian	to	1110-15'
Pennington & Bangor	1115' to	1580'
Hartselle Sandstone	1580' to	1740'
Gasper	1740' to	1815'
Bethel & St. Genevieve	1815' to	1865'
Tuscumbia	1865' to	1930' T.D.

WINSTON COUNTY

G. L. Reasor et al
J. J. Henderson #1
NW/4 of NE/4
Sec. 30—T 9 S—R 10 W
Winston County, Ala.

Elev. 950 ft.

Began February 25, 1942

Comp. September 20, 1942

- 58- 60-Ctgs: Coarse-grained etched variegated sand; frag. of dark red shale; white chert; frag. of fine-grained sandstone.

Tuscaloosa

- 66- 70-Ctgs: Light gray fine-grained sandstone with mica.

Pennsylvanian

- 75- 80-Ctgs: Same, with carb. material and pyrite.
80- 85-Ctgs: Gray fine-grained sandstone with pyrite, mica and carb. material.
85- 90-Ctgs: Light gray fine-grained sandstone with mica; frag. of brown carb. sandstone. Pyrite.
90- 100-Ctgs: Same.
100- 105-Ctgs: Light gray non-calcareous medium-grained sandstone with mica. Pyrite.
105- 110-Ctgs: Medium-grained etched sand and sandstone. Pyrite.
110- 115-Ctgs: Medium-grained sand.
115- 125-Ctgs: Same, and gray hard fine-grained sandstone, pyrite and frag. of coal ?
125- 130-Ctgs: Gray fine-grained mic., carb. sandstone.
130- 135-Ctgs: Same and soft brown shale.
135- 140-Ctgs: Same and gray shale.
140- 150-Ctgs: Same.
150- 160-Ctgs: Black shale.
160- 165-Ctgs: Same and carb. shale and frag. of sandstone.
165- 170-Ctgs: Same and gray sandy shale.
170- 175-Ctgs: Same, with increasing amount of gray sandy shale.
175- 180-Ctgs: Gray and brown hard fine-grained sandstone and sandy shale with carb. material.
180- 185-Ctgs: Gray fine-grained sandstone with mica and gray shale frag.
185- 190-Ctgs: Hard gray medium-grained sandstone with mica.
190- 200-Ctgs: Same with pyrite and carb. material; gray shale frag.
200- 205-Ctgs: Same.
205- 210-Ctgs: Same with increasing amount of gray to black shale.
210- 215-Ctgs: Gray medium-gr. sandstone with mica and carb. material.
215- 225-Ctgs: Same and reddish brown sandstone.
225- 30-Ctgs: Gray medium to fine-grained sandstone; gray to black mic., carb. shale.

- 235- 40-Ctgs: Same with medium-grained asphaltic sandstone.
- 240- 45-Ctgs: Brown, gray and black mic., carb. shale and sandy shale.
- 245- 50-Ctgs: Gray mic. shale and carb. shale; carb. material and coal.
- 250- 55-Ctgs: Light gray hard medium-grained sandstone with mica and pyrite. Brown carb. shale; carb. material; hard brown non-calc. sandstone; gray shale.
- 255- 60-Ctgs: Light gray medium-grained sand with quartz gravel. Gray shale frag.
- 260- 80-Ctgs: Coarse-grained etched sand, small amount of quartz gravel.
- 280- 85-Ctgs: Medium to coarse-grained etched sand, gray carb. shale frag.
- 285- 90-Ctgs: Gray hard fine-grained sandstone with mica and carb. material; brown mic., carb. shale; coarse-grained sub-angular sand.
- 290- 95-Ctgs: Same with gray mic. shale.
- 295- 305-Ctgs: Light gray medium-grained sandstone and sand, gray carb. sandy shale frag.; black carb. shale frag.
- 305- 20-Ctgs: Light gray medium-grained sand and sandstone; frag. of gray carb. shale and carb. material.
- 320- 25-Ctgs: Dark gray carb. shale; medium-grained sand and carb. material.
- 325- 30-Ctgs: Dark gray to black shale, carb. material; brown claystone.
- 330- 35-Ctgs: Gray and brown medium-grained hard sandstone with mica; gray carb. shale frag.
- 335- 45-Ctgs: Gray and brown hard medium-grained sandstone with mica; gray to black mic. shale; drab-colored shale frag.
- 345- 50-Ctgs: Light gray medium to fine-grained hard sandstone with mica.
- 350- 60-Ctgs: Same and black carb. shale frag.
- 360- 65-Ctgs: Same and gray shale frag.
- 365- 75-Ctgs: Same and brown sandstone.
- 375- 80-Ctgs: Gray and brown fine-grained sandstone with mica and carb. material.
- 380- 85-Ctgs: Same with asphaltic residue in part of sandstone.
- 385- 90-Ctgs: Gray and brown coarse to medium-grained sandstone; carb. material and drab-colored shale.
- 390- 95-Ctgs: Same with asphaltic ? residue in part of sandstone; carb. material and gray carb. shale.
- 395- 400-Ctgs: Gray hard fine-grained mic., carb. sandstone, and mic., carb. sandy shale.
- 400- 05-Ctgs: Gray hard fine-grained sandstone; gray mic. shale and sandy shale.
- 405- 10-Ctgs: Light gray medium to coarse-grained sand and sandstone. Part of sand showing crystal faces.
- 410- 15-Ctgs: Medium-grained sand, part with crystal faces.
- 415- 20-Ctgs: Medium-gr. sand and frag. of gray shale.
- 420- 25-Ctgs: Same with increasing amount of gray shale and sandy shale.

- 425- 30-Ctgs: Same with mica.
430- 35-Ctgs: Same and dark gray shale frag.
435- 45-Ctgs: Medium-grained sand, light gray hard ~~fine-grained~~ sandstone, gray shale with mica; black shale frag.
445- 50-Ctgs: Medium-grained to coarse sand, ~~gray sandy shale~~ with mica, black shale frag. Part of sand with crystal faces.
450- 55-Ctgs: Medium-grained sand and sandstone, occasional coarse sand grains, gray sandy shale, black shale frag. with carb. material.
455- 60-Ctgs: Medium-grained sand and sandstone with mica.
460- 65-Ctgs: Medium-grained sand.
465- 80-Ctgs: Same and coarse-grained sand.
480- 84-Ctgs: Same and sandstone frag.
485- 525-Ctgs: Same and quartz pebbles.
525- 30-Ctgs: Same and light gray ~~hard~~ fine-grained sandstone.
530- 35-Ctgs: Medium-grained sand.
535- 40-Ctgs: Same and brown medium to fine-grained sandstone.
540- 45-Ctgs: Medium and coarse-grained sand and pebbles.
545- 50-Ctgs: Medium-grained sand.
550- 55-Ctgs: Coarse-grained sand, sandstone and gravel.
555- 65-Ctgs: Same and medium-grained sand.
565- 70-Ctgs: Hard brown fine-grained ~~sandstone~~ with mica and carb. material; black carb. shale frag.
570- 75-Ctgs: Same with dark gray sandy shale.
575- 80-Ctgs: Same with mica.
580- 85-Ctgs: Medium-grained sand, light gray hard ~~fine-grained~~ sandstone, gray to black shale and sandy shale with carb. material. Pyrite.
585- 90-Ctgs: Gray hard sandy shale with mica and carb. material, black carb., mic. shale; medium-grained sand.
590- 95-Ctgs: Medium-grained sand, gray sandy shale with mica and carb. material; black carb. shale.
595- 600-Ctgs: Gray hard fine-grained sandstone; gray sandy shale with mica and carb. material; black carb. shale.
600- 05-Ctgs: Gray hard fine-grained sandstone with mica and sandy shale, brown clay and sandy clay with pyrite. Carb. material.
605- 20-Ctgs: Same and dark gray to black shale.
620- 25-Ctgs: Same with brown sandstone and sandy clay.
625- 40-Ctgs: Same, with increasing amount of black mic., carb. shale and sandy shale.
640- 45-Ctgs: Same with black mic., carb. shale.
645- 50-Ctgs: Gray hard fine-grained sandstone, gray sandy shale, black mic., carb. shale.
650- 55-Ctgs: Brown sandstone and sandy clay, black mic., carb. shale; light gray hard fine-grained sandstone.
655- 60-Ctgs: Same, and **plant impressions** in dark gray sandy shale.
660- 65-Ctgs: Same and black carb. shale. Coal.
665- 85-Ctgs: Brown clay, medium gray shale.

- 685- 90-Ctgs: Same and light gray fine-grained sandstone with mica.
 690- 95-Ctgs: Gray hard fine-grained sandstone and sandy shale with mica; dark gray carb. shale.
 695- 700-Ctgs: Same, and brown sandstone and shale.
 700- 10-Ctgs: Same and frag. of fossiliferous sandstone.
 710- 15-Ctgs: Gray shale and sandy shale, part fossiliferous. **Shell frag.**
 Pyrite.
 715- 20-Ctgs: Light gray limestone with brown streaks.

Pennington

- 720- 25-Ctgs: Light gray lime, part slightly oolitic.
 Small gastropod noted.
 725- 40-Ctgs: Same and green shale frag.
 740- 45-Ctgs: Light gray crystalline limestone.
 745- 50-Ctgs: Same and green shale frag.
 750- 55-Ctgs: Same.
 Impressions of fossils noted.
 755- 60-Ctgs: Same and red and green shale.
 760- 65-Ctgs: Same with increasing amount of red and green shale.
 765- 70-Ctgs: Light green and gray lime; red shale frag.
 770- 95-Ctgs: Gray lime and red and green shale.
 795- 800-Ctgs: Brick red and greenish gray clay; light gray lime, part oolitic.
 800- 05-Ctgs: Dark reddish brown shale and dark greenish gray shale, cream-colored crystalline limestone.
 805- 10-Ctgs: Cream-colored limestone, crystalline, slightly oolitic.
 Small crinoid stems.
 810- 25-Ctgs: Cream-colored crystalline limestone.
 825- 40-Ctgs: Cream-colored crystalline, fossiliferous limestone.
 Crinoid stems and Bryozoa noted.
 Ostracods.
 840- 45-Ctgs: Same and greenish gray finely granular limestone and bluish cherty limestone.
 Crinoid stems.
 845- 50-Ctgs: Same with brownish gray shaly lime with **crinoid stems**.
 850- 55-Ctgs: Gray crystalline limestone with **crinoid stems**.
 855- 60-Ctgs: Same and green shale.
 860- 70-Ctgs: Dark red and green shale, and gray lime frag.
 870- 75-Ctgs: Dark red and green shale and brownish crystalline limestone with **crinoid stems**, and part oolitic.
 875- 80-Ctgs: Brownish gray limestone finely oolitic ?, fossiliferous; dark red and green shale.
 880- 85-Ctgs: Same and brownish gray crystalline limestone.
 885- 90-Ctgs: Gray and brown crystalline limestone, fossiliferous; greenish, gray and red shale.
 Bryozoa frag. noted.
 890- 95-Ctgs: Brownish gray crystalline limestone, **shell impressions** noted; gray and red shale frag.

Prob. Bangor

- 895- 900-Ctgs: Same and light gray oolitic limestone.
- 900- 05-Ctgs: Same and green shale.
- 905- 20-Ctgs: Same.
- 920- 25-Ctgs: Same and gray shale with **Fenestella Bryozoa**.
Crinoid stems.
- 925- 35-Ctgs: Gray shaly and crystalline limestone with **Fenestella Bryozoa**. Brown chert.
- 935- 50-Ctgs: Brownish gray crystalline limestone.
- 950- 55-Ctgs: Same and gray shale with **crinoid stems**, red shale from above.
- 955- 80-Ctgs: Brownish gray limestone and gray shale with **Fenestella Bryozoa**.
Crinoid stems.
- 980- 85-Ctgs: Brownish gray limestone, part oolitic; **crinoid stems**; **small gastropods**; **Ostracods**.
- 985- 90-Ctgs: Same and dark gray shale frag.
- 990- 95-Ctgs: Brownish gray crystalline limestone and green shale.
- 995-1000-Ctgs: Gray finely granular lime, brownish gray crystalline limestone.
Bryozoa.
- 1000- 05-Ctgs: Brownish gray crystalline limestone.
- 1005- 10-Ctgs: Same and brown finely granular limestone.
- 1015- 20-Ctgs: Gray limestone, part oolitic and with **crinoid stems**.
- 1020- 35-Ctgs: Light gray limestone, part oolitic, with **crinoid stems**.
Shell frag.
- 1035- 40-Ctgs: Brownish gray crystalline limestone.
- 1040- 45-Ctgs: Same and finely granular limestone.
- 1045- 50-Ctgs: Light gray crystalline limestone with **Fenestella Bryozoa**.
Crinoid stems.
- 1050- 65-Ctgs: Same and yellowish green shale.
- 1065- 70-Ctgs: Same and green shale.
- 1070- 75-Ctgs: Same and brown chert and finely granular limestone.
- 1075- 90-Ctgs: Same and black shale frag.
- 1090- 95-Ctgs: Same with brown and bluish chert.
- 1095-1100-Ctgs: Gray crystalline limestone and green shale; red shale from above.
- 1100- 05-Ctgs: Gray crystalline and finely granular limestone, dark red and gray shale, prob. from above; gray chert; **crinoid stems**.
- 1105- 10-Ctgs: Same, with increasing amount of finely granular limestone and shaly lime.
- 1110- 20-Ctgs: Gray and brownish gray crystalline limestone, fossiliferous; gray calcareous shale.
Crinoid stems.
Fenestella Bryozoa.
- 1120- 25-Ctgs: Gray crystalline and finely granular limestone, gray calcareous shale, part with **Fenestella Bryozoa**. Green shale.
- 1125- 35-Ctgs: Gray crystalline fossiliferous limestone; gray fossiliferous shale.
Fenestella Bryozoa.

- 1135- 40-Ctgs: Same with increasing amount of gray shale.
 1140- 45-Ctgs: Same with an abundance of **Bryozoa** remains.
 Crinoid stems.
 Small gastropods noted.
 1145- 50-Ctgs: Same, with an increasing amount of gray shale.
 1150- 55-Ctgs: Same.
 Frag. of Archimedes sp.
 1155- 60-Ctgs: Gray shale and limestone.
 1160- 65-Ctgs: Gray slightly calcareous shale and gray lime.
 1165- 70-Ctgs: Same.
 Fenestella Bryozoa.
 1170- 75-Ctgs: Same and limestone with small black inclusions.
 Shell frag.
 Crinoid stems.
 1175- 80-Ctgs: Gray shale and gray and brown oolitic limestone. Pyrite.
 Crinoid stems.
 1180- 95-Ctgs: Gray and brown oolitic limestone with **crinoid stems**;
 black shale.
 1195-1200-Ctgs: Gray crystalline limestone; gray finely granular lime;
 gray fossiliferous shale.
 1200- 05-Ctgs: Gray and brown limestone, part oolitic, fossiliferous; gray
 and black shale.
 1205- 15-Ctgs: Gray and brown oolitic limestone, gray and black shale.
 1215- 20-Ctgs: Gray lime and red shale from above.
 1220- 25-Ctgs: Gray crystalline and oolitic limestone.
 1225- 30-Ctgs: Gray crystalline limestone and shaly lime.
 Crinoid stems, pentagonal plates.
 1230- 35-Ctgs: Gray crystalline and oolitic limestone and gray shale.
 1235- 40-Ctgs: Gray crystalline and oolitic limestone with **Fenestella**
Bryozoa and gray shale, gray finely granular limestone
 and shale.
 1240- 45-Ctgs: Gray crystalline limestone, fossiliferous; gray shaly lime.
 1245- 75-Ctgs: Gray finely granular limestone and shaly lime.
 1275- 80-Ctgs: Sandy lime and gray, green and red shale from above.
 1280- 85-Ctgs: Medium-grained dense sandstone with asphaltic material;
 and material from above.

Hartselle sandstone

- 1285- 90-Ctgs: Medium-grained sand, gray limestone and sandy limestone.
 Crinoid stems.
 1290- 95-Ctgs: Light gray medium-grained calcareous sandstone and
 sandy lime; gray calc. shale.
 1295-1300-Ctgs: Light gray med.-grained sandstone with slight oil stain.
 1304- 10-Ctgs: Light gray fine-grained sandstone, non-calcareous.
 1310- 15-Ctgs: Same, part fossiliferous.
 1315- 18-Ctgs: Medium to coarse-grained sand, part fossiliferous.
 1318- 23-Ctgs: Med.-grained sand. Brownish black shale with carb. ma-
 terial.
 1323- 28-Ctgs: Same. Black shale.

- 1328- 30-Ctgs: Medium-grained sandstone and sand and pebbles, coarse-grained sandstone.
- 1330- 45-Ctgs: Medium-grained sandstone with **fossils embedded**. Crinoid stems.
- 1345- 50-Ctgs: Same and shale from above.
- 1350- 55-Ctgs: Same and dark gray calcareous soft shale, from above ?
- 1355- 60-Ctgs: Same, chiefly shale.
- 1360- 65-Ctgs: Light gray medium to fine-grained sandstone, brownish black shale.
- 1365- 70-Ctgs: Same, and **small gastropods** and **crinoid stems**, from above ?
- 1370- 80-Ctgs: Same, with increasing amount of shale.
- 1380- 85-Ctgs: Same, chiefly fine-grained sandstone.
- 1385- 90-Ctgs: Same.
- 1390- 95-Ctgs: Chiefly brownish black soft splintery shale and light gray hard fine-grained sandstone.
- 1395-1400-Ctgs: Brownish black soft splintery shale, vein calcite and small amount of sand.
- 1400- 05-Ctgs: Light gray hard fine-grained sandstone and black splintery shale.
- 1405- 10-Ctgs: Same and sandy shale.
- 1410- 15-Ctgs: Gray hard fine-grained sandstone; gray shale and sandy shale.
- 1415- 20-Ctgs: Dark gray carb. sandy shale.
- 1420- 25-Ctgs: Dark gray sandy shale with mica; hard brown claystone.
- 1425- 30-Ctgs: Same, and gray carb. shale.
- 1430- 35-Ctgs: Gray fine-grained sandstone and sandy shale with mica, hard brown claystone; pyrite.
- 1435- 55-Ctgs: Same.
- 1455- 60-Ctgs: Gray sandy shale, part fossiliferous; gray mic., carb. shale.
- 1460- 70-Ctgs: Same. **Shell frag.** in sandy shale.
- 1470- 75-Ctgs: Same and brown claystone.
- 1475- 85-Ctgs: Same. Pyrite and black shale.
- 1485- 90-Ctgs: Same with brown and gray quartzitic sandstone and black shale.
- 1490-1500-Ctgs: Same with more quartzitic sandstone.
- 1500- 25-Ctgs: Brownish black shale and gray sandy shale; brown claystone.
- 1525- 30-Ctgs: Same, with increasing amount of brownish black shale.
- Prob. Gasper**
- 1530- 35-Ctgs: Brownish black shale.
- 1535- 40-Ctgs: Black shale.
- 1540- 50-Ctgs: Same. Pyrite.
Shell frag. noted.
- 1550- 55-Ctgs: Same, part fossiliferous.
- 1555- 60-Ctgs: Same and frag. of light gray quartzitic sandstone. **Ostracods** replaced by pyrite.

- 1560- 65-Ctgs: Brownish gray impure lime, fossiliferous and fossiliferous black shale.
Gastropods and Ostracods.
Productus ? frag.
- 1565- 70-Ctgs: Brownish gray impure lime, fossiliferous. Black shale.
Productus sp. noted.
Orthoceras frag., from above ?
Ostracods.
- 1570- 75-Ctgs: Same and small **gastropods** and **pelecypod frag.**
Crinoid stems.
Ostracods.
- 1575- 80-Ctgs: Same, fossiliferous, and brown dense limestone.
Small Productus sp.
- 1580- 90-Ctgs: Same and shale.
- 1590- 95-Ctgs: Same and fossiliferous shale.
Crinoid stems.
- 1595-1600-Ctgs: Same. Sandy shale noted. Small **Cephalopod** replaced by pyrite noted in black shale matrix.
Crinoid stems.
Small pelecypods.
- 1600- 05-Ctgs: Same and brown limestone frag. **Crinoid stems.** Small **Cephalopod** replaced by pyrite.
- 1605- 10-Ctgs: Brown and gray crystalline limestone with **crinoid stems.**
Shell frag.
- 1610- 15-Ctgs: Same and shale, and frag. of medium-grained calcareous sandstone.

Bethel

- 1615- 20-Ctgs: Same and gray shaly lime and medium-grained calcareous sandstone.
- 1620- 25-Ctgs: Greenish gray crystalline and granular limestone, fossiliferous. Medium-grained sandstone frag.

St. Genevieve

- 1625- 30-Ctgs: Same and **brachiopod frag.** noted.
Crinoid stems.
- 1630- 35-Ctgs: Brownish gray crystalline and fossiliferous limestone.
Large crinoid stems.
Brachiopod spines and shell frag.

Tuscumbia

- 1635- 40-Ctgs: Same.
- 1640- 45-Ctgs: Same and gray crystalline limestone.
- 1645- 50-Ctgs: Same and bluish chert.
- 1650- 65-Ctgs: Same.
- 1665- 75-Ctgs: Same. White cherty lime noted.
- 1675- 80-Ctgs: Brownish and gray crystalline limestone.
- 1680- 85-Ctgs: Brownish gray crystalline limestone.
- 1685- 95-Ctgs: Gray crystalline limestone.
Brachiopod frag.
- 1695-1700-Ctgs: Same and bluish chert.

- 1700- 10-Ctgs: Same with small amount of chert.
1710- 20-Ctgs: Same.
Brachiopod frag.
1720- 25-Ctgs: Light gray coarsely crystalline limestone.
1725- 40-Ctgs: Light gray coarsely crystalline limestone with **brachiopod impressions**.
1740- 45-Ctgs: Light gray crystalline limestone.
1745- 50-Ctgs: Slightly bluish gray and gray dense limestone, part cherty.
1750- 55-Ctgs: Bluish gray dense limestone, part cherty.
1755- 60-Ctgs: Same and brown cherty limestone; brown and bluish chert.

Prob. Fort Payne

- 1760- 65-Ctgs: Brownish limestone and brownish gray cherty limestone.
1765- 75-Ctgs: Dark brownish gray cherty lime.
1775- 80-Ctgs: Same and gray limestone; black shale.
1780- 85-Ctgs: Medium gray crystalline and cherty lime, bluish gray chert.
1785- 95-Ctgs: Same and black shale frag.
1795-1800-Ctgs: Light gray limestone and bluish cherty limestone.
1800- 30-Ctgs: Same and black shale frag.
1830- 40-Ctgs: Brownish gray chert and cherty limestone and crystalline limestone; black shale frag.
1840- 80-Ctgs: Same and brown crystalline limestone.
1880- 90-Ctgs: Same and bluish chert.
1895-1900-Ctgs: Gray lime and chert with green inclusions.
1900- 05-Ctgs: Same and brown limestone.
1905- 10-Ctgs: Greenish gray lime and shale.
Crinoid stems.

Chattanooga

- 1910- 15-Ctgs: Black shale with **spores**.
1915- 20-Ctgs: Same and brown quartzitic and fine-grained sandstone.
Pyrite.
1920- 35-Ctgs: Same.
1935- 40-Ctgs: Same, and greenish gray lime and chert.

Silurian

- 1940- 45-Ctgs: Greenish gray lime and chert; black shale from above.
1945- 55-Ctgs: Greenish gray limestone.
1955- 60-Ctgs: Same.
Crinoid stems noted.
1960- 65-Ctgs: Same with chert.
1965- 80-Ctgs: Same.
1980- 95-Ctgs: Same and greenish gray shale carrying **Bryozoa**; shaly lime with pyrite.
1995-2000-Ctgs: Greenish gray and gray limestone with small amount of greenish gray shale.
Ostracods noted.
2000- 10-Ctgs: Greenish gray limestone and shaly lime.
Crinoid stems.
Bryozoa.

- 2010- 20-Ctgs: Same.
Brachiopods and Ostracods.
- 2020- 25-Ctgs: Same and green shaly lime.
Large crinoid stems.
- 2025- 30-Ctgs: Greenish gray limestone and shale, fossiliferous; and yellowish brown fossiliferous limestone.
- 2030- 35-Ctgs: Same. Dark red shale frag.
Brachiopods and crinoid stem frag.
Ostracods.
- 2035- 55-Ctgs: Same and gray and brown crystalline limestone.
- 2055- 65-Ctgs: Dark red and pink lime, green and pink lime, greenish gray lime and shale.
Crinoid stems.
- 2065- 95-Ctgs: Same with increasing amount of dark red lime.
- 2095-2100-Ctgs: Reddish brown and greenish gray limestone and shale.
- 2100- 05-Ctgs: Same and **crinoid stems**.
- 2105- 15-Ctgs: Same.
Crinoid plates and stems.
- 2115- 35-Ctgs: Brown and greenish gray fossiliferous limestone.
Crinoid stems.
- 2135- 50-Ctgs: Same and brown shale.
Crinoid stems.
Crinoid plates and brachiopods.
- 2150- 60-Ctgs: Brown shale and shaly lime, pink limestone, green fossiliferous shale and limestone.
- 2160- 75-Ctgs: Dark red shale and fossiliferous limestone.
- 2175-2200-Ctgs: Same and pink and green limestone.
Ostracods.
Crinoid stems.
- 2200- 05-Ctgs: Same and very dark red shale and lime. Frag. with glauconitic inclusions.
- 2205- 10-Ctgs: Same. Frag. of dark red lime with glauconite.
Small brachiopod.
- 2210- 15-Ctgs: Same, and dark gray shale and lime.
- Ordovician—Trenton**
- 2215- 20-Ctgs: Same.
- 2220- 25-Ctgs: Same and black shale and dark gray lime.
- 2225- 40-Ctgs: Same, part with black phosphatic inclusions.
- 2240-2335-Ctgs: Black and gray lime with abundant small black inclusions; black shale.
Coral frag.
- 2335- 40-Ctgs: Black and gray lime and black calc. shale.
- 2340- 45-Ctgs: Dark gray and black lime and calc. shale.
- 2345- 75-Ctgs: Same and dark grayish brown limestone with **brachiopod impressions**.
- 2375-2405-Ctgs: Same and brown chert noted.
- 2405- 20-Ctgs: Same as preceding.
- 2420- 25-Ctgs: Gray to black limestone; black shale.
- 2425- 30-Ctgs: Gray to black limestone with black inclusions; black shale.

- 2430- 50-Ctgs: Same and dark grayish brown crystalline limestone.
2450- 55-Ctgs: Gray to black limestone and black shale.
2455- 70-Ctgs: Same, part of limestone with black inclusions.
2470- 75-Ctgs: Same and light brown crystalline limestone.
- Black River**
- 2475- 85-Ctgs: Light brown crystalline limestone and gray limestone from above.
2485- 90-Ctgs: Same and drab-colored dense limestone.
2490- 95-Ctgs: Same and light brown granular limestone.
2495-2500-Ctgs: Light brown dense and finely granular limestone.
2500- 05-Ctgs: Same and light brown finely oolitic ? limestone.
2505- 25-Ctgs: Light brown and drab-colored dense and crystalline limestone.
2525- 30-Ctgs: Same and soft green fossiliferous shale, from above ?
2530- 90-Ctgs: Light brown dense and crystalline limestone and brown finely granular limestone.
2590-2600-Ctgs: Same and grayish limestone.
2600- 05-Ctgs: Light brown and gray crystalline limestone.
2605- 15-Ctgs: Same and brown granular limestone.
2615- 20-Ctgs: Light brown crystalline limestone.
2620- 25-Ctgs: Same and grayish brown limestone.
2625- 30-Ctgs: Light brown limestone and chert and greenish gray limestone and soft green shale.
Brach'opods.
2630- 35-Ctgs: Same and brown chert noted.
2635- 45-Ctgs: Light brown and gray crystalline limestone and chert.
2645- 50-Ctgs: Greenish gray and light brown fossiliferous limestone.
Chert noted.
2650- 70-Ctgs: Dark gray, greenish gray, and dark grayish brown lime.
Brachiopod impressions.
2670- 75-Ctgs: Same and light brown granular limestone.
2675- 90-Ctgs: Same and drab-colored dense limestone.
2690- 95-Ctgs: Drab-colored dense and greenish gray limestone.
2695-2700-Ctgs: Same and brown granular limestone.
2700- 05-Ctgs: Drab-colored and brown limestone.
2705- 20-Ctgs: Same and gray dense limestone.
2720-2810-Ctgs: Same and gray shaly lime.
2810- 60-Ctgs: Same and dark gray and brown dense limestone and shaly lime.
2860- 65-Ctgs: Light gray finely granular limestone and brown dense limestone.
2865- 70-Ctgs: Same.
2870- 90-Ctgs: Same and brown finely granular limestone.
2890- 95-Ctgs: Medium and dark gray limestone.
2895-2900-Ctgs: Light gray and greenish gray dense and finely granular limestone.
2900- 15-Ctgs: Gray and brown dense limestone.
2915- 20-Ctgs: Light greenish gray dense and granular limestone.
2920- 40-Ctgs: Same and light brown limestone.

2940-	50-Ctgs:	Light greenish gray finely granular limestone.
2950-	60-Ctgs:	Light gray dolomite.
2960-	95-Ctgs:	Same and brownish gray granular limestone.
2995-3020-	Ctgs:	Light greenish gray dolomite.
3020-	40-Ctgs:	Light greenish gray magnesium limestone.
3040-	45-Ctgs:	Light greenish gray dolomite.
3045-	60-Ctgs:	Light gray finely granular dolomitic limestone.
3060-	66-Ctgs:	Same and gray shaly lime frag.
3066-	72-Ctgs:	Same and greenish calcareous shale.
3072-	84-Ctgs:	Light gray granular dolomitic limestone and shale noted.
3084-	96-Ctgs:	Same, slightly bluish.
3096-3106-	Ctgs:	Light bluish gray dolomite.
3106-	11-Ctgs:	Light gray and brownish dolomite with frosted sand grains.
3111-	14-Ctgs:	Same with occasional frosted sand grains.
3114-	28-Ctgs:	Light brownish gray dolomite.

Summary

Tuscaloosa	.....	to	.....	60'
Pennsylvanian	.....	60-70'	to	 715'
Pennington & Bangor	.....	715'	to	 1280-85'
Hartselle	.....	1280-85'	to	 1525'
Gasper	.....	1525'	to	 1610'
Bethel	.....	1610'	to	 1620'
St. Genevieve	.....	1620'	to	 1635'
Tuscumbia	.....	1635'	to	 1760'
Fort Payne	.....	1760'	to	 1905'
Chattanooga	.....	1905-10'	to	 1935'
Silurian	.....	1935-40'	to	 2210'
Ordovician	.....	2210-15'	to	 3128' T.D.
Trenton	.....	2210-15'	to	 2475'
Black River	.....		at	 2470-75'

Superior Oil Co.

First National Bank of Birmingham #1

Center NW/4 of NW/4 of NE/4

Sec. 18—T 12 S—R 8 W

Winston County, Ala.

Elev. 699 ft. D. F.

Began February 10, 1943

Comp. April 29, 1943

20- 25-Ctgs: Gray hard mic., carb. sandstone and shale.

Pennsylvanian

25- 30-Ctgs: Same with less shale.

30- 35-Ctgs: Same.

35- 40-Ctgs: Gray hard medium-grained mic. sandstone, gray shale frag. noted, carb. ? material, and brown claystone.

- 40- 45-Ctgs: Same, with fine-grained sandstone and sandy shale.
45- 60-Ctgs: Same.
60- 65-Ctgs: Same with increasing amount of carb. shale.
65- 70-Ctgs: Gray hard sandy mic. shale, carb. coal frag. noted.
70- 80-Ctgs: Same.
80- 85-Ctgs: Light gray hard medium-grained sandstone with mica; dark gray sandy mic. shale with carb. material.
85- 90-Ctgs: Same.
90- 95-Ctgs: Same with increasing amount of shale.
95- 100-Ctgs: Gray carb. mic. sandy shale and gray hard mic. sandstone.
100- 05-Ctgs: Light gray hard medium-grained mic. sandstone with carb. material and dark gray sandy mic. shale.
105- 10-Ctgs: Same and dark gray shale noted.
110- 15-Ctgs: Same and black shale.
115- 20-Ctgs: Same.
120- 25-Ctgs: Light gray hard medium-grained mic. sandstone, carb. material.
125- 30-Ctgs: Same and sand.
130- 48-Ctgs: Same.
148- 50-Ctgs: Same. Pyrite noted.
150- 60-Ctgs: Same.
160- 65-Ctgs: Medium-grained mic. sand.
165- 70-Ctgs: Same and sandstone.
170- 75-Ctgs: Same and somewhat coarser sand.
175- 90-Ctgs: Light gray hard mic. medium-grained sandstone.
195- 200-Ctgs: Same and frag. of brown sandstone. Carb. material.
200- 05-Ctgs: Coarse-grained sand and sandstone; black shale.
205- 10-Ctgs: Black carb. shale, coarse-grained sand noted.
210- 15-Ctgs: Dark gray hard sandy carb. shale; brown claystone.
215- 30-Ctgs: Same.
235- 40-Ctgs: Dark gray hard sandy shale with carb. material.
240- 45-Ctgs: Hard coarse-grained sandstone, fine-grained sandstone with mica, gray mic., carb. sandy shale.
245- 50-Ctgs: Gray hard mic. carb. sandy shale; medium to fine-grained hard sandstone.
250- 55-Ctgs: Same as preceding.
255- 60-Ctgs: Gray hard mic. carb. sandy shale.
260- 65-Ctgs: Same.
265- 70-Ctgs: Same and coarse-grained sandstone with asphaltic residue.
270- 75-Ctgs: Coarse-grained sand with asphaltic residue; part of quartz with crystal faces; dark gray hard sandy mic., carb. shale.
275- 80-Ctgs: Coarse-grained sand and sandstone, gray shale frag.
280- 95-Ctgs: Same as preceding.
295- 300-Ctgs: Coarse sand and black shale, carb.
300- 10-Ctgs: Same.
310- 15-Ctgs: Same and medium to fine-grained sand and sandstone.
315- 20-Ctgs: Coarse to medium-grained mic. sandstone, gray shale noted.
320- 30-Ctgs: Same.
330- 35-Ctgs: Same with black shale frag.

- 340- 45-Ctgs: Same with very coarse sand and gravel.
 345- 50-Ctgs: Fine-grained sandstone and sandy mic., carb. shale; coarse sand.
 350- 55-Ctgs: Fine-grained sand and gray sandy mic. shale.
 355- 65-Ctgs: Same.
 365- 70-Ctgs: Gray mic. carb. sandy shale.
 370- 90-Ctgs: Same as preceding.
 390- 95-Ctgs: Dark gray mic. carb. sandy shale. Lime frag. noted.
 395- 400-Ctgs: Dark gray mic., carb. shale; brown claystone.
 400- 05-Ctgs: Gray to brownish fine-grained mic. sandstone, brown claystone, gray to black shale.
 405- 10-Ctgs: Buff-colored medium to fine-grained sand and sandstone with mica, black and gray shale.
 410- 15-Ctgs: Same with **crinoid stems**; buff-colored to brown claystone.
 415- 20-Ctgs: Light gray and brownish sandstone, light gray sandy shale with mica and carb. material.
 420- 25-Ctgs: Same and hard sandstone.
 425- 30-Ctgs: Brown and gray hard medium-grained sandstone, gray sandy mic. shale, black carb. shale.
 435- 40-Ctgs: Brown medium-grained sand and sandstone with oil stain.
 440- 45-Ctgs: Same, stained with oil; and black shale frag.
 445- 50-Ctgs: Same and light gray sandstone, black shale frag.
 450- 55-Ctgs: Same, with increasing amount of light gray sandstone.
 455- 60-Ctgs: Medium-grained oil stained sand; light gray sandstone and black shale frag.
 460- 65-Ctgs: Light gray hard fine-grained mic., carb. sandstone, dark gray to black mic. carb. shale.
 465- 70-Ctgs: Light gray hard fine-grained mic. sandstone.
 470- 73-Ctgs: Same.
 472- 75-Ctgs: Light gray and brown medium-grained sandstone; gray to black shale and brown claystone.
 475- 80-Ctgs: Gray medium to fine-grained sandstone and gray mic. sandy shale.
 480- 85-Ctgs: Light gray fine-grained sandstone with mica and gray sandy shale.
 485- 90-Ctgs: Light gray fine-grained sandstone with mica, and gray sandy shale.
 490- 95-Ctgs: Light gray hard medium-grained sandstone with mica and sand.
 495- 500-Ctgs: Same with black shale and brown claystone.
 500- 05-Ctgs: Same.
 505- 10-Ctgs: Same with some coarse sand.
 510- 15-Ctgs: Medium to coarse-grained sand and sandstone, black shale frag.
 515- 20-Ctgs: Same and brown claystone.
 520- 25-Ctgs: Same and hard fine-grained mic. sandstone.
 525- 30-Ctgs: Gray hard fine-grained sandstone and sandy shale with mica.
 530- 35-Ctgs: Gray to black hard mic. sandy shale.
 535- 40-Ctgs: Same and brown claystone.

- 540- 45-Ctgs: Light gray to fine to medium-grained sandstone with slight oil stain; carb. material and shale.
- 545- 50-Ctgs: Medium-grained sand and sandstone with oil stain; carb. material and shale.
- 550- 55-Ctgs: Medium to coarse-grained sand.
- 555- 75-Ctgs: Same as preceding.
- 575- 80-Ctgs: Same and fine sand.
- 580- 95-Ctgs: Same.
- 595- 600-Ctgs: Same with increasing amount of coarse sand.
- 600- 25-Ctgs: Same.
- 625- 30-Ctgs: Coarse-grained sand and sandstone, brown claystone and carb. material.
- 630- 35-Ctgs: Medium and coarse-grained sand.
- 635- 55-Ctgs: Same.
- 655- 60-Ctgs: Same with brown claystone and carb. material noted.
- 660- 65-Ctgs: Same.
- 665- 70-Ctgs: Coarse sand with increasing amount of brown claystone.
- 670- 75-Ctgs: Same with light gray hard sandstone; gray shale.
- 675- 80-Ctgs: Same.
- 680- 85-Ctgs: Light gray hard fine-grained sandstone with mica, sandy shale and medium-grained sand.
- 685- 95-Ctgs: Same.
- 695- 700-Ctgs: Same and oil stained sand, from above ?
- 700- 05-Ctgs: Medium-grained sand and sandstone.
- 705- 10-Ctgs: Same and fine sand.
- 710- 15-Ctgs: Medium to fine-grained sand.
- 715- 20-Ctgs: Same.
- 720- 25-Ctgs: Same and sandstone.
- 725- 30-Ctgs: Same.
- 730- 35-Ctgs: Medium to fine-grained sand and sandstone and brown claystone.
- 735- 45-Ctgs: Same.
- 745- 50-Ctgs: Same and brown claystone.
- 750- 55-Ctgs: Same.
- 755- 60-Ctgs: Same and hard gray shale frag.
- 760- 65-Ctgs: Same.
- 770- 75-Ctgs: Medium to fine-grained sand and sandstone, gray shale, carb. material, brown claystone.
- 775- 80-Ctgs: Medium-grained sand and sandstone, part with oil stain.
- 785- 90-Ctgs: Medium-grained sand with oil stain.
- 790- 95-Ctgs: Medium-grained sand, part with oil stain.
- 800- 05-Ctgs: Coarse-grained sand and sandstone.
- 805- 10-Ctgs: Medium to coarse-grained sand.
- 810- 30-Ctgs: Same.
- 830- 35-Ctgs: Same and medium-grained sand.
- 835- 40-Ctgs: Gravel, sandy shale and fine-grained sandstone, brown claystone and carb. material.
- 840- 45-Ctgs: Same with more brown claystone.
- 845- 50-Ctgs: Medium-grained sand and sandstone and brown claystone.
- 850- 55-Ctgs: Medium-grained sand and sandstone.

- 855- 60-Ctgs: Same.
 860- 65-Ctgs: Fine-grained sand.
 865- 70-Ctgs: Same and medium-grained sand.
 870- 75-Ctgs: Same and coal frag.
 875- 80-Ctgs: Same with brown claystone; pyritized wood noted.
 880- 85-Ctgs: Medium to coarse-grained sand, brown claystone; carb. material and shale noted.
 885- 90-Ctgs: Same.
 890- 95-Ctgs: Same; gravel noted.
 895- 900-Ctgs: Medium to coarse-grained sand.
 900- 05-Ctgs: Coarse to medium-grained sand.
 905- 10-Ctgs: Same.
 910- 15-Ctgs: Fine to coarse-grained sand.
 915- 20-Ctgs: Same with increasing amount of coarse-grained sand.
 920- 25-Ctgs: Same.
 925- 30-Ctgs: Coarse and medium-grained sand and light brown lime frag.
 930- 35-Ctgs: Same.
 935- 40-Ctgs: Medium to coarse-grained sandstone and gravel.
 940- 45-Ctgs: Coarse-grained sand and sandstone.
 950- 55-Ctgs: Same.
 955- 60-Ctgs: Same and sandstone.
 960- 65-Ctgs: Coarse to medium-grained sand.
 965- 70-Ctgs: Same.
 970- 75-Ctgs: Same and gray sandy shale.
 975- 80-Ctgs: Same.
 980- 85-Ctgs: Fine sand and gray sandy shale.
 985- 90-Ctgs: Gray sandy shale and hard fine-grained sandstone with mica.
 990- 95-Ctgs: Same, and brown claystone.
 995-1000-Ctgs: Dark gray sandy shale with mica.
 1000- 05-Ctgs: Same with black shale; brown claystone, frag. sandstone, sand.
 Crinoid stems noted.
 1005- 10-Ctgs: Same. Brown sandy lime noted.
 1010- 15-Ctgs: Same with increasing amount of brown sandy lime.
 Crinoid stems.
 1015- 20-Ctgs: Gray hard sandy mic. shale and fine-grained sandstone.
 1020- 25-Ctgs: Medium to fine-grained hard sandstone, brown claystone, pyritized wood.
 1025- 30-Ctgs: Brown claystone, lime frag., sandstone and sandy shale.
 1030- 35-Ctgs: Brown claystone and gray shale, pyrite.
 1035- 40-Ctgs: Dark and medium gray shale with an abundance of siderite concretions.

Pennington

- 1040- 45-Ctgs: Same and greenish gray shale.
 1045- 50-Ctgs: Gray and brown sandstone, green and gray shale with siderite concretions; brown limestone, slightly oolitic.

Bangor

- 1050- 55-Ctgs: Light gray to brownish limestone; green shale and reddish brown shale, from above carrying siderite concretions.
Crinoid stems and ostracods.
- 1055- 60-Ctgs: Gray crystalline limestone, green and gray shale.
Crinoid stems.
- 1060- 65-Ctgs: Light grayish brown crystalline limestone. Chert noted.
Material from above.
- 1065- 70-Ctgs: Light grayish brown crystalline limestone.
- 1070- 75-Ctgs: Same, and shale from above.
- 1075- 80-Ctgs: Light brownish gray cherty limestone.
- 1080- 85-Ctgs: Light brownish gray coarsely crystalline limestone.
Crinoid stems.
- 1085- 90-Ctgs: Same.
- 1090- 95-Ctgs: Light brown crystalline limestone.
Crinoid stems.
- 1095-1100-Ctgs: Same.
- 1100- 05-Ctgs: Light gray and brownish oolitic limestone.
- 1105- 10-Ctgs: Same.
- 1110- 15-Ctgs: Light gray oolitic limestone.
Small brachiopods and gastropods.
Crinoid stems.
- 1120- 25-Ctgs: Same and crystalline limestone.
- 1125- 30-Ctgs: Same.
- 1130- 35-Ctgs: Same and brownish stain noted in some of material.
- 1135- 40-Ctgs: Gray and light brown oolitic and crystalline limestone.
- 1140- 45-Ctgs: Light brown crystalline limestone.
- 1145- 50-Ctgs: Light brown crystalline limestone with crinoid stems.
- 1150- 75-Ctgs: Same.
- 1175- 80-Ctgs: Light brown crystalline limestone.
- 1180- 85-Ctgs: Same.
- 1185- 90-Ctgs: Light brown oolitic and crystalline limestone, drab-colored granular limestone.
- 1190- 95-Ctgs: Light brown crystalline and granular limestone.
- 1195-1200-Ctgs: Light brown oolitic and crystalline limestone with **crinoid stems**.
- 1200- 05-Ctgs: Light brown crystalline limestone with **crinoid stems**; soft green fossiliferous shale with black inclusions.
- 1205- 10-Ctgs: Same.
- 1210- 15-Ctgs: Same and brown oolitic limestone.
- 1215- 20-Ctgs: Brown crystalline limestone, fossiliferous; greenish gray finely granular limestone.
- 1220- 25-Ctgs: Brown crystalline and oolitic limestone.
- 1230- 35-Ctgs: Brown oolitic limestone; black shale frag.
- 1235- 40-Ctgs: Brown crystalline and granular limestone, fossiliferous.
- 1240- 45-Ctgs: Brown crystalline and granular limestone, black shale frag.
Fenestella Bryozoa
Corals.

- 1245- 50-Ctgs: Brown crystalline and granular limestone, brownish black shale.
Crinoid stems.
- 1250- 55-Ctgs: Brown oolitic, crystalline and granular limestone.
- 1255- 60-Ctgs: Brown oolitic and granular limestone, black shale frag.
- 1260- 65-Ctgs: Brown crystalline and oolitic limestone.
- 1265- 70-Ctgs: Same with granular limestone and brownish black shale.
Crinoid stems.
- 1270- 75-Ctgs: Brown crystalline limestone, fossiliferous, black shale frag.
- 1275- 80-Ctgs: Same.
Corals noted.
- 1280- 85-Ctgs: Brown crystalline limestone and brownish black shale.
- 1285- 90-Ctgs: Brown crystalline and granular limestone, chert; black shale frag.
- 1290- 95-Ctgs: Same.
- 1295-1300-Ctgs: Same and dark brown granular limestone.
- 1300- 10-Ctgs: Same.
- 1310- 15-Ctgs: Brown crystalline limestone and black shaly lime. Chert noted.
- 1315- 20-Ctgs: Same with **crinoid stems**.
- 1320- 25-Ctgs: Dark brown crystalline limestone, dark brown fossiliferous shale carrying **Fenestella Bryozoa**.
- 1325- 30-Ctgs: Dark brown limestone and shaly lime, fossiliferous.
- 1330- 35-Ctgs: Dark brown crystalline limestone, brown to black shaly lime.
- 1335- 40-Ctgs: Same.
Small brachiopods.
- 1340- 45-Ctgs: Brown crystalline limestone, grayish brown fossiliferous shale.
Bryozoa.
- 1345- 50-Ctgs: Brownish black soft fossiliferous shale, brown limestone.
Fenestella Bryozoa.
Crinoid stems.
- 1350- 55-Ctgs: Same.
- 1355- 60-Ctgs: Brown limestone and brownish gray fossiliferous shale.
- 1360- 65-Ctgs: Same.
Fenestella Bryozoa.
- 1365- 70-Ctgs: Same.
Gastropods and pelecypods noted.
- 1370- 75-Ctgs: Brown oolitic limestone. **Crinoid stems**; brownish gray shale with **Fenestella Bryozoa**.
- 1375- 80-Ctgs: Same with other **Bryozoa**.
- 1380- 85-Ctgs: Light brown oolitic and crystalline limestone; grayish brown fossiliferous shale.
- 1385- 90-Ctgs: Brown crystalline limestone, grayish brown fossiliferous shale.
- 1390- 95-Ctgs: Brown crystalline and granular limestone.
- 1400- 05-Ctgs: Same, fossiliferous. Shale noted.
- 1405- 10-Ctgs: Brown crystalline limestone and brownish gray shale.

- 1410- 15-Ctgs: Brown crystalline limestone.
Ostracods noted.
- 1415- 20-Ctgs: Brown crystalline limestone with **crinoid stems**.
- 1420- 25-Ctgs: Brown crystalline limestone, fossiliferous.
- 1425- 30-Ctgs: Brown crystalline limestone, and dark gray impure limestone.
- 1430- 35-Ctgs: Dark gray to black impure lime, brown crystalline limestone, from above ?
- 1435- 40-Ctgs: Dark brown limestone, black shaly lime.
- 1440- 45-Ctgs: Gray and brownish black limestone.
- 1445- 50-Ctgs: Gray and brown slightly granular limestone.
- 1450- 55-Ctgs: Same. Pyrite.
- 1455- 60-Ctgs: Medium-grained sand and hard sandstone; black and gray shale frag.

Hartselle Sandstone

- 1460- 62—Core— Brown and gray fine-grained sandstone with shale lenses. Oil stain.
- 1462- 65—Core— Hard brown fine-grained sandstone with oil stain and asphaltic residue. Odor of oil.
- 1465- 68—Core— Same with less oil stain and odor.
- 1468- 71—Core— Gray fine-grained sandstone with shale lenses, part of sand with oil stain.
- 1472- 76—Core— Same.
- 1476- 77—Core— Medium-grained hard sandstone with oil stain and odor.
- 1500- 02—Core— Light gray hard fine-grained sandstone, non-calcareous.
- 1502- 06-Ctgs: Light gray hard medium-grained sandstone, black shale. Shell frag. noted.
- 1506- 10-Ctgs: Same and sandstone with oil stain.
- 1510- 15-Ctgs: Light gray hard medium-grained sandstone, black shale.
- 1515- 40-Ctgs: Same.
- 1540- 45-Ctgs: Light gray hard fine-grained sandstone, frag. of hard brown sandstone, black shale.
- 1545- 50-Ctgs: Same and sandy shale; hard brown sandstone.
- 1550- 55-Ctgs: Same and fossiliferous shale frag.
- 1560- 65-Ctgs: Same and pyrite.
- 1565- 80-Ctgs: Same.
- 1580- 85-Ctgs: Light gray hard fine-grained sandstone, gray sandy shale and black shale.
- 1585- 90-Ctgs: Same and brown sandstone frag.
- 1590-1600-Ctgs: Same.
- 1600- 05-Ctgs: Same and brownish black shale, fossiliferous.
- 1605- 10-Ctgs: Same.
- 1615- 20-Ctgs: Same.
- 1620- 25-Ctgs: Gray hard fine-grained sandstone and sandy shale; black shale, pyrite.
- 1625- 30-Ctgs: Same.
- 1630- 35-Ctgs: Same with more shale.
- 1635- 40-Ctgs: Same.
- 1640- 45-Ctgs: Brownish black shale and sandy shale.

- 1645- 50-Ctgs: Same and hard brown sandstone.
 1650- 55-Ctgs: Brownish black shale, fossils noted. Brown claystone; sandy shale.
 1655- 60-Ctgs: Same.
 1660- 65-Ctgs: Brownish black shale.
 1665- 70-Ctgs: Same, slightly fossiliferous.
 1670- 90-Ctgs: Same.
 1690- 95-Ctgs: Brown hard fine-grained sandstone, black shale, pyrite.
 1695-1700-Ctgs: Brown hard fine-grained sandstone, black shale and sandy shale, pyrite.
 Shell frag.
 1700- 05-Ctgs: Brown medium to fine-grained sand and sandstone with oil stain ? Black shale.
 1705- 12-Ctgs: Same.
 1712- 16—Core— Top 10"—Hard fine-grained sandstone with oil ? stain.
 Recovery 1"—Buff-colored hard medium to fine-grained calcareous sandstone.
 1716- 19-Ctgs: Gray medium-grained sandstone with asphaltic ? residue; mic. black shale, pyrite.
 1725- 30-Ctgs: Same.
 1735- 40-Ctgs: Brown crystalline limestone, gray hard fine-grained sandstone, black shale.
 1740- 45-Ctgs: Black shale, gray fossiliferous sandy shale, pyrite.
 Shell frag.
 1745- 50-Ctgs: Black shale, gray hard fine-grained sandstone and sandy shale, pyrite.
 1750- 55-Ctgs: Gray and brown crystalline limestone, black shale and sandstone frag.
 1755- 60-Ctgs: Brown fossiliferous limestone, material from above.
 1766- 70—Core— Top—Brown crystalline limestone, black shale.
 Bottom—Hard brown crystalline limestone with **crinoid stems**.
 1770- 72—Core— Brown crystalline limestone with odor of oil; black shale lenses.
 1772- 74—Core— Recovery 4"—Gray cherty lime.
 1774- 76-Ctgs: Brown crystalline limestone, black shale.
 1776- 79-Ctgs: Brown crystalline limestone with **crinoid stems**; black shale noted.
 1779- 80—Core— Recovery 8"—Black shale, slightly fossiliferous.
 1881- 83—Core— Recovery 10" (fragmentary) Brown crystalline limestone, also black shale.
 1783- 88-Ctgs: Brown crystalline limestone with chert.
 1792- 95-Ctgs: Brown and gray crystalline limestone with oil stain; black shale.
 1795-1800-Ctgs: Gray and brown crystalline limestone, fossiliferous, slightly oolitic.
 Endothyra sp.
 Crinoid stems.
 1800- 02-Ctgs: Same. Black shale frag.

- 1802- 05—Core— Recovery 6"—Brown crystalline limestone, part with an odor of oil and somewhat cavernous.
Fenestella Bryozoa noted.
Recovery 6"—Light brown limestone, somewhat oolitic.
- 1805- 08—Core— Brown crystalline limestone.
- 1808- 12—Core— Brown coarsely crystalline limestone, fossiliferous, with brown stain.
Bryozoa.

Tuscumbia

- 1808- 12—Core— Brown coarsely crystalline limestone.
- 1808- 12—Core— Bottom—Brown coarsely crystalline limestone with oil ? stain.
- 1812- 17—Core— Top—Light gray coarsely crystalline limestone.
- 1812- 17—Core— Bottom—Light gray coarsely crystalline limestone with stain and odor of oil.
Shell impressions noted.
- 1817- 22—Core— Light gray coarsely crystalline limestone, partly impregnated with asphaltic residue.
- 1817- 22—Core— Coarsely crystalline limestone with oil stain throughout.
- 1822- 26—Ctgs: Light gray crystalline limestone, black shale from above ?
- 1826- 31—Ctgs: Light gray and drab-colored crystalline limestone, black shale, from above ?
- 1831- 36—Ctgs: Same, fossiliferous.
- 1836- 41—Ctgs: Light gray crystalline limestone.
- 1841- 46—Ctgs: Light gray coarsely crystalline limestone.
- 1846- 50—Ctgs: Light gray crystalline, fossiliferous limestone, part with a greenish tinge.
Bryozoa noted.
- 1850- 55—Ctgs: Light gray crystalline limestone.

Summary

Pennsylvanian	to	1040'
Pennington & Bangor	1040'	to
Hartselle	1455-60'	to
Gasper	at	1545'
Bethel	1690'	to
St. Genevieve	1750'	to
Tuscumbia	1805'	to
		1855'

Top of Tuscumbia may be at about 1795 ft. with coarsely crystalline limestone.

Gas reported at 1366 ft.

Show of heavy oil in Hartselle reported.

Glenn D. Rose

First National Bank, Trustee #1 (Z. A. Bozhell #1)

NW/4 of NE/4

Sec. 18—T 12 S—R 8 W

Winston County, Ala.

Elev. 709 ft. D. F.

Began December 11, 1944

Completed January 21, 1945

- 65- 70-Ctgs: Light gray hard mic. fine-grained sandstone with asphaltic ? streaks.

Pennsylvanian

- 70- 75-Ctgs: Same.
 75- 80-Ctgs: Same and gray to black sandy carb. shale.
 95- 105-Ctgs: Same.
 105- 10-Ctgs: Medium-grained sand and mic. sandstone and gray to black mic., carb. shale.
 110- 15-Ctgs: Same.
 130- 35-Ctgs: Medium to coarse-grained sand and sandstone with mica and sandy mic. shale.
 135- 40-Ctgs: Same.
 145- 50-Ctgs: Medium-grained sand and sandstone.
 150- 55-Ctgs: Medium and coarse-grained etched sand and sandstone with mica.
 155- 60-Ctgs: Same.
 160- 65-Ctgs: Same with more coarse-grained sand.
 165- 70-Ctgs: Same.
 175- 80-Ctgs: Same with coarse sand.
 180- 85-Ctgs: Same.
 185- 90-Ctgs: Coarse, medium and fine-grained sand.
 190- 95-Ctgs: Coarse and medium-grained etched sand and sandstone with mica.
 195- 200-Ctgs: Same with fine sand.
 210- 15-Ctgs: Black shale and sand.
 215- 20-Ctgs: Same with brown claystone.
 230- 45-Ctgs: Same.
 245- 50-Ctgs: Black shale, sandy shale and sandstone
 255- 60-Ctgs: Same.
 260- 65-Ctgs: Black shale and sandy shale.
 265- 75-Ctgs: Same.
 275- 80-Ctgs: Same and coarse-grained sand and sandstone, carb. material; sandstone carrying asphaltic material.
 280- 85-Ctgs: Coarse-grained sand and sandstone and black shale frag.
 285- 90-Ctgs: Same.
 290- 95-Ctgs: Same and gray shale.
 295- 300-Ctgs: Same.
 300- 05-Ctgs: Very coarse sand and sandstone and black shale frag.

- 305- 10-Ctgs: Same with gravel.
310- 20-Ctgs: Same.
320- 25-Ctgs: Same and brown claystone.
325- 30-Ctgs: Medium to coarse-grained sand and black shale.
330- 35-Ctgs: Coarse-grained sand and sandstone, black carb. shale and brown claystone.
335- 40-Ctgs: Coarse-grained sand and sandstone and gravel, brown claystone, carb. material, black carb. shale frag.
340- 45-Ctgs: Same and sandy shale.
345- 50-Ctgs: Same and gray shale.
350- 55-Ctgs: Same with more sandy shale.
355- 60-Ctgs: Gray to black sandy shale, coarse-grained sand and sandstone.
360- 75-Ctgs: Same.
390- 95-Ctgs: Black shale and sandy shale.
400- 05-Ctgs: Black sandy carb. mic. shale and brown claystone.
405- 10-Ctgs: Medium to fine-grained sandstone with brownish stain, black carb. shale and sandy shale, brown claystone.
410- 20-Ctgs: Same.
420- 25-Ctgs: Same and gray mic., carb. sandy shale.
425- 30-Ctgs: Gray sandy shale and black shale.
430- 35-Ctgs: Same and sandstone with brown stain; hard fine-grained sandstone.
435- 40-Ctgs: Same and medium-grained sandstone with brown stain.
440- 45-Ctgs: Medium-grained sandstone with brown stain, gray hard fine-grained sandstone and sandy shale.
445- 50-Ctgs: Medium-grained sandstone with brown stain; shale noted.
450- 55-Ctgs: Same and hard fine-grained sandstone
455- 60-Ctgs: Same.
480- 85-Ctgs: Medium and fine-grained hard sandstone.
485- 90-Ctgs: Same and sandy shale.
490- 95-Ctgs: Same with mica.
495- 500-Ctgs: Same.
505- 10-Ctgs: Medium to coarse-grained sand and sandstone; brown claystone noted.
510- 25-Ctgs: Same.
530- 35-Ctgs: Medium-grained sand and sandstone, gray sandy shale.
535- 40-Ctgs: Same.
540- 45-Ctgs: Gray sandy shale, medium-grained sand. Coal frag. noted.
545- 50-Ctgs: Medium-grained sandstone with brown stain, gray sandy shale, black carb. shale.
550- 55-Ctgs: Coarse-grained sandstone and gravel with brown stain, gray sandy shale.
570- 75-Ctgs: Medium to coarse-grained sand.
585- 90-Ctgs: Same with gravel noted. Shale frag.
595- 600-Ctgs: Coarse-grained sand and gravel, part stained brown.
600- 05-Ctgs: Coarse-grained sand and sandstone and gravel.
605- 45-Ctgs: Same.
645- 50-Ctgs: Same and shale frag.
655- 60-Ctgs: Same.

660-	65-Ctgs:	Same and brown claystone.
665-	70-Ctgs:	Same and gray sandy shale.
670-	75-Ctgs:	Same.
675-	80-Ctgs:	Medium and coarse-grained sand and sandstone and sandy shale.
680-	85-Ctgs:	Gray hard sandy shale and sandstone.
685-	90-Ctgs:	Same.
690-	95-Ctgs:	Same and sand.
695-	710-Ctgs:	Same.
710-	15-Ctgs:	Medium-grained sand and sandstone and sandy shale.
715-	25-Ctgs:	Same.
725-	30-Ctgs:	Medium-grained sand and sandstone.
730-	35-Ctgs:	Same.
735-	40-Ctgs:	Medium-grained sand and sandstone with mica.
740-	45-Ctgs:	Same and shale noted.
745-	50-Ctgs:	Same. Brown claystone noted.
750-	55-Ctgs:	Medium to coarse-grained sand and sandstone, shale frag.
755-	75-Ctgs:	Same.
785-	90-Ctgs:	Medium to coarse-grained sand with brown stain.
790-	95-Ctgs:	Same.
795-	800-Ctgs:	Medium to coarse-grained sand and gravel.
800-	15-Ctgs:	Same.
815-	20-Ctgs:	Medium to coarse-grained sand and sandstone and gravel.
820-	25-Ctgs:	Same.
825-	30-Ctgs:	Same and sandy shale.
830-	35-Ctgs:	Same.
840-	45-Ctgs:	Same and brown sandstone frag.
850-	55-Ctgs:	Medium-grained sand and sandstone.
855-	60-Ctgs:	Same.
860-	65-Ctgs:	Medium to fine-grained sand.
865-	70-Ctgs:	Same and sandstone.
870-	75-Ctgs:	Same and carb. shale frag.
875-	80-Ctgs:	Same.
880-	85-Ctgs:	Same and coarse-grained sand noted.
885-	90-Ctgs:	Medium to coarse-grained sand and sandstone. Gravel.
890-	95-Ctgs:	Same.
900-	05-Ctgs:	Coarse-grained etched sand and sandstone and gravel.
905-	15-Ctgs:	Same.
915-	20-Ctgs:	Same with increasing amount of gravel.
920-	65-Ctgs:	Same.
965-	70-Ctgs:	Same with less gravel.
970-	75-Ctgs:	Medium-grained sand and sandstone.
975-	80-Ctgs:	Same and black mic., carb. sandy shale.
980-	95-Ctgs:	Same.
995-1000-	Ctgs:	Gray and black mic. shale and sandy shale, lime frag. and brown claystone, pyrite.
1000-	05-Ctgs:	Gray hard fine-grained sandstone and sandy shale, mic. carb. brown claystone, lime frag., pyrite.
1005-	10-Ctgs:	Same.

- 1010- 15-Ctgs: Medium-grained sand and sandstone and sandy shale, lime frag.
 1015- 20-Ctgs: Same.
 1020- 25-Ctgs: Same and mic., carb. sandy shale.
 1025- 30-Ctgs: Medium to coarse-grained hard sandstone with **crinoid stems**, black shale, brown claystone.
 1030- 35-Ctgs: Same.
 1035- 40-Ctgs: Black and gray mic. carb. shale and sandy shale.
 1040- 45-Ctgs: Same with brown claystone.
 1045- 50-Ctgs: Gray to black carb. shale, siderite concretions, soft greenish gray shale with siderite concretions.
 1050- 59-Ctgs: Light gray limestone and brown oolitic limestone. White chert, **crinoid stems** and **small gastropods** noted. Gray shale frag.

Bangor

- 1059- 65-Ctgs: Light gray crystalline limestone, part with oil ? stain, green and gray soft shale.
 1065- 70-Ctgs: Light gray crystalline limestone, green shale.
 1070- 75-Ctgs: Light gray crystalline limestone.
 1075- 80-Ctgs: Same and green shale frag.
 1080- 85-Ctgs: Same with greenish gray shale. Chert noted.
 1085- 95-Ctgs: Same.
 1095-1100-Ctgs: Gray and brown crystalline limestone, green shale frag. Chert noted.
 1100- 05-Ctgs: Light gray oolitic limestone and crystalline limestone.
 1105- 10-Ctgs: Same with slight oil stain.
 1110- 15-Ctgs: Light gray oolitic limestone, greenish gray clay.
 1115- 20-Ctgs: Same.
 1120- 25-Ctgs: Light gray oolitic limestone.
 1125- 30-Ctgs: Gray crystalline limestone with **Fenestella Bryozoa**, light gray oolitic limestone, **crinoid stems**, dark greenish gray shale.
 1130- 35-Ctgs: Light gray limestone and dark greenish gray clay.
 1135- 45-Ctgs: Same.
 1145- 50-Ctgs: Same and oolitic limestone.
 1150- 55-Ctgs: Same.
 1155- 60-Ctgs: Light gray crystalline, oolitic and granular limestone.
 1160- 65-Ctgs: Light gray limestone and dark greenish gray clay.
 1165- 70-Ctgs: Light gray limestone, part oolitic, dark greenish gray clay.
 1170- 85-Ctgs: Same.
 Crinoid stems.
 1190- 95-Ctgs: Light gray oolitic and crystalline limestone.
 1195-1200-Ctgs: Same and finely granular limestone.
 1200- 05-Ctgs: Light gray limestone, part oolitic.
 1205- 10-Ctgs: Light gray crystalline and oolitic limestone. **Crinoid stems**, green shale.
 1210- 20-Ctgs: Same.
 1220- 25-Ctgs: Light gray oolitic and crystalline limestone.
 1225- 30-Ctgs: Same.

- 1230- 35-Ctgs: Light gray crystalline and granular limestone.
 1235- 40-Ctgs: Light gray crystalline limestone with dark streaks.
 Crinoid stems.
 1240- 45-Ctgs: Same.
 1245- 50-Ctgs: Light gray crystalline and oolitic limestone with dark streaks, fossiliferous. **Small brachiopods.** Black shale frag.
 1250- 55-Ctgs: Same and granular limestone.
 Crinoid stems.
 1255- 70-Ctgs: Same.
 1270- 75-Ctgs: Same and dark greenish gray shale.
 1275- 80-Ctgs: Gray crystalline limestone and greenish gray clay.
 1280- 85-Ctgs: Same and dark greenish gray clay.
 1285- 90-Ctgs: Gray crystalline limestone with dark streaks, fossiliferous; black shale frag.
 1290- 95-Ctgs: Same.
 1295-1300-Ctgs: Same with granular limestone and chert.
 1300- 05-Ctgs: Gray granular and crystalline limestone, black shale frag.
 1305- 10-Ctgs: Light and dark gray limestone and shaly lime. Chert noted.
 1310- 15-Ctgs: Gray limestone, greenish gray shale, dark gray shaly lime. Chert.
 1315- 30-Ctgs: Same.
 1335- 40-Ctgs: Gray crystalline limestone and shale.
 1340- 45-Ctgs: Same, fossiliferous, and brown limestone.
 1345- 50-Ctgs: Same.
 Brachiopod noted.
 1350- 55-Ctgs: Same.
 1355- 60-Ctgs: Dark gray shale, fossiliferous. **Bryozoa noted.** Gray limestone.
 Pyrite.
 Small gastropods.
 Crinoid stems.
 1360- 65-Ctgs: Dark gray fossiliferous shale and gray limestone. Pyrite.
 Crinoid stems.
 1365- 70-Ctgs: Black shale.
 Shell frag.
 1370- 75-Ctgs: Dark gray shale, oolitic limestone.
 Crinoid stems.
 1375- 80-Ctgs: Same, fossiliferous.
 1380- 85-Ctgs: Same.
 1385- 90-Ctgs: Gray and brown oolitic limestone. **Crinoid stems.** Black shale.
 1395-1400-Ctgs: Same.
 1400- 05-Ctgs: Light gray limestone and black fossiliferous shale.
 1405- 30-Ctgs: Same.
 1430- 35-Ctgs: Gray and brown crystalline limestone, black shaly lime.
 1435- 45-Ctgs: Same.
 1445- 50-Ctgs: Gray and brown limestone and black shaly lime.

- 1450- 60-Ctgs: Same.
1460- 65-Ctgs: Medium to fine-grained hard sandstone and sandy shale.
Hartselle
1465- 70-Ctgs: Same and dark gray carb. shale.
1470- 75-Ctgs: Medium-grained sand and sandstone.
1475- 80-Ctgs: Gray hard fine-grained sandstone.
1480- 85-Ctgs: Medium-grained sand and sandstone, gray and black shale frag.
1485- 90-Ctgs: Same.
1490- 95-Ctgs: Same with pyrite, part with brown stain.
1495-1505-Ctgs: Same.
1505- 10-Ctgs: Same with considerable brown stain.
1510- 15-Ctgs: Same with coarse-grained sand noted.
1515- 20-Ctgs: Light gray medium to coarse-grained sand and sandstone, black shale frag.
1520- 25-Ctgs: Same.
1525- 30-Ctgs: Medium-grained hard sandstone with shale frag.
1530- 55-Ctgs: Same.
1555- 60-Ctgs: Light gray hard fine-grained closely cemented sandstone and black mic. carb. shale and sandy shale.

Gasper

- 1560- 65-Ctgs: Same.
1565- 70-Ctgs: Same and gray shale, and brown claystone.
1570- 75-Ctgs: Same and sandy shale.
1575- 80-Ctgs: Gray and black mic., carb. shale and sandy shale, gray hard fine-grained sandstone and sandy shale; pyrite, lime frag noted.
1580- 85-Ctgs: Same. Gray soft shale noted.
1585- 90-Ctgs: Gray and black shale and sandy shale, and brown claystone.
1590- 95-Ctgs: Black shale and sandy shale.
1595-1600-Ctgs: Same.
1605- 10-Ctgs: Same and gray soft shale carrying **Ostracods**.
1610- 15-Ctgs: Same.
1615- 20-Ctgs: Black shale and sandy shale and hard fine-grained sandstone, pyrite.
1620- 30-Ctgs: Same.
1630- 35-Ctgs: Black mic., carb. shale and sandy shale, brown claystone.
1635- 50-Ctgs: Same.
1650- 55-Ctgs: Black and brown shale and sandy shale.
1655- 60-Ctgs: Same.
1660- 65-Ctgs: Gray and black shale, part sandy.
1665- 70-Ctgs: Same and brown claystone.
1670- 75-Ctgs: Same.
1675- 80-Ctgs: Gray to black mic., carb. shale, gray soft shale and brown claystone.
1680- 85-Ctgs: Same. Pyrite.
1685- 90-Ctgs: Black and gray shale and brown claystone.
1690- 95-Ctgs: Same.

- 1700- 05-Ctgs: Black shale, part fossiliferous and medium-grained sandstone with brown stain.

Prob. Bethel

- 1710- 20-Ctgs: Same.
 1720- 25-Ctgs: Same with fine sand.
 1725- 30-Ctgs: Brownish black and gray shale, brown claystone. Shell frag. noted.
 1730- 35-Ctgs: Brownish black and gray shale, and brown claystone.
 1735- 40-Ctgs: Brownish black shale.
 1740- 45-Ctgs: Same and sandy shale and hard fine-grained sandstone.
 1745- 50-Ctgs: Same with sandy shale. Shell frag. noted.
 1750- 55-Ctgs: Brownish black soft splintery shale and sandy shale, slightly fossiliferous, hard fine-grained sandstone, pyrite.
 1755- 60-Ctgs: Same and brown fossiliferous limestone.

St. Genevieve ?

- 1760- 65-Ctgs: Gray granular and slightly oolitic limestone and black shale.
 1770- 75-Ctgs: Limestone with brown stain.
 1775- 80-Ctgs: Same and white and brown chert.

Tuscumbia

- 1780- 85-Ctgs: Same with white chert. Show of oil.
 1785- 90-Ctgs: Same.
 1790- 95-Ctgs: Same and brown limestone.
 1795-1800-Ctgs: Gray and brown crystalline limestone. Chert noted. Black shale.
 1800- 05-Ctgs: Same.
 1805- 10-Ctgs: Gray crystalline limestone, part stained brown, brown and black shale.
 1810- 15-Ctgs: Light gray crystalline limestone.
 1815- 20-Ctgs: Same, part with brown stain.
 1820- 40-Ctgs: Same.
 1840- 45-Ctgs: Light gray crystalline limestone.
 1850- 55-Ctgs: Same with white and bluish chert. Part of limestone with brown stain.
 1855- 60-Ctgs: Same with considerable chert.
 1860- 65-Ctgs: Light gray crystalline limestone.
 1865- 70-Ctgs: Same and chert.
 1870- 75-Ctgs: Same.
 1875- 80-Ctgs: Same and brown limestone. Black shale, from above ?
 1880- 85-Ctgs: Light gray limestone, part stained brown.
 1885- 90-Ctgs: Same with chert.
 1890- 95-Ctgs: Same and brown limestone.
 1895-1900-Ctgs: Same with limestone stained brown and chert.
 1900- 05-Ctgs: Gray and brown limestone and chert.
 1905- 10-Ctgs: Light gray limestone and dark gray to black shaly lime, brown chert.
 1910- 20-Ctgs: Same.

1920- 25-Ctgs:	Light gray crystalline limestone, white and bluish chert.
1925- 30-Ctgs:	Same.
1930- 35-Ctgs:	Same and black shale, from above.
1935- 95-Ctgs:	Same.
1995-2000-Ctgs:	Light gray crystalline limestone with bluish and white chert.

Summary

Pennsylvanian	to	1050-59'
Bangor	1050-59' to	1460'
Hartselle	1460' to	1555'
Gasper	1555' to	1700'
Bethel & St. Genevieve	1700' to	1775'
Tuscumbia & Fort Payne	1775' to	2005' T.D.

G. D. Rose

First National Bank of Birmingham #3

SW/4 of SE/4

Sec. 7—T 12 S—R 8 W

Winston County, Ala.

Elev. 700 ft. approx.

Began February 12, 1946

Completed November 15, 1946

0- 5-Ctgs: Fine-grained sand.

Pennsylvanian

5- 20-Ctgs:	Same.
20- 25-Ctgs:	Same and brown sandstone and claystone.
25- 35-Ctgs:	Same.
35- 40-Ctgs:	Sandstone, coal and gray mic. carb. sandy shale.
40- 45-Ctgs:	Gray mic., carb. sandy shale.
45- 50-Ctgs:	Same and fine sand.
50- 55-Ctgs:	Gray fine-grained sand and sandstone with mica.
50- 55-Ctgs:	Same and brown claystone and carb. shale.
55- 65-Ctgs:	Same.
65- 70-Ctgs:	Gray hard fine-grained sandstone and black carb. sandy shale.
70- 75-Ctgs:	Same and coal.
75- 85-Ctgs:	Same.
85- 90-Ctgs:	Coal and black mic., carb. sandy shale.
90- 110-Ctgs:	Same.
110- 15-Ctgs:	Same with gray fine-grained sandstone.
115- 20-Ctgs:	Same.
120- 25-Ctgs:	Gray fine-grained sand and sandstone.
125- 30-Ctgs:	Gray hard fine-grained sandstone with mica.
130- 80-Ctgs:	Same.
180- 85-Ctgs:	Gray medium-grained sand.

- 185- 200-Ctgs: Same.
 200- 05-Ctgs: Black hard shale and brown claystone.
 205- 35-Ctgs: Same.
 235- 40-Ctgs: Same, somewhat sandy.
 240- 45-Ctgs: Dark gray sandy mic., carb. shale and brown claystone.
 245- 50-Ctgs: Black mic. carb. shale and brown claystone.
 250- 55-Ctgs: Same and hard sandstone.
 255- 75-Ctgs: Same.
 275- 80-Ctgs: Dark gray hard sandy shale.
 280- 85-Ctgs: Same.
 285- 90-Ctgs: Medium to fine-grained sand.
 290- 95-Ctgs: Medium-grained sand.
 295- 300-Ctgs: Same.
 300- 05-Ctgs: Same with somewhat coarser sand.
 305- 10-Ctgs: Same.
 315- 20-Ctgs: Same with coarse sand.
 320- 75-Ctgs: Samples every 5 feet, Medium to coarse-grained sand.
 375- 80-Ctgs: Dark gray sandy mic., carb. shale.
 380- 85-Ctgs: Same and brown claystone.
 385- 400-Ctgs: Same.
 400- 30-Ctgs: Samples every 5 feet, Black mic., carb. sandy shale.
 430- 35-Ctgs: Same and fine-grained sandstone.
 Crinoid stems.
 435- 40-Ctgs: Gray hard fine-grained sandstone with mica.
 440- 90-Ctgs: Same.
 490- 95-Ctgs: Light gray hard fine-grained mic. sandstone.
 495- 515-Ctgs: Same.
 515- 20-Ctgs: Same and medium-grained sand.
 520- 35-Ctgs: Same.
 555- 60-Ctgs: Medium to coarse-grained sand and sandy shale.
 575- 80-Ctgs: Gray fine-grained sand.
 580- 95-Ctgs: Same.
 595- 600-Ctgs: Medium-grained sand.
 600- 05-Ctgs: Same and coarse-grained sand.
 605- 35-Ctgs: Samples every 5 feet, medium-grained sand.
 635- 70-Ctgs: Samples every 5 feet, medium to fine-grained sand.
 670- 75-Ctgs: Medium to coarse-grained sand.
 675- 80-Ctgs: Fine sand.
 680- 700-Ctgs: Medium to coarse-grained sand.
 700- 05-Ctgs: Coarse-grained sandstone and brown claystone.
 705- 10-Ctgs: Medium to coarse-grained sand and sandy shale.
 710- 15-Ctgs: Same and brown claystone.
 715- 20-Ctgs: Same.
 720- 25-Ctgs: Gray sandy shale.
 725- 35-Ctgs: Same.
 735- 40-Ctgs: Coarse-grained sand, sandstone and dark gray mic. sandy shale.
 740- 55-Ctgs: Medium-grained sand and sandstone.
 755- 60-Ctgs: Coarse to fine-grained sand and sandstone.
 760- 65-Ctgs: Same and sandy shale.

765-	70-Ctgs:	Gray hard fine-grained sandstone and sand.
770-	800-Ctgs:	Same.
800-	05-Ctgs:	Same and brown claystone.
805-	10-Ctgs:	Medium-grained sand and sandstone and brown claystone.
810-	20-Ctgs:	Same.
820-	55-Ctgs:	Samples every 5 feet, medium to coarse-grained sand.
860-	65-Ctgs:	Fine-grained sand.
865-	70-Ctgs:	Coarse-grained sand, hard fine-grained sandstone and sandy shale.
870-	75-Ctgs:	Fine-grained sand.
875-	915-Ctgs:	Samples every 5 feet, fine-grained sand and sandstone.
915-	20-Ctgs:	Medium-grained sand.
920-	25-Ctgs:	Fine-grained sand.
925-	30-Ctgs:	Same with coarse sand.
930-	45-Ctgs:	Samples every 5 feet, medium-grained and coarse sand and sandstone.
945-	50-Ctgs:	Medium-grained sand and sandstone.
950-	55-Ctgs:	Fine-grained sand and sandstone.
955-	60-Ctgs:	Fine-grained sand.
960-	65-Ctgs:	Medium to coarse-grained sand.
965-	70-Ctgs:	Same.
970-	80-Ctgs:	Samples every 5 feet, coarse-grained sand, hard, fine-grained sandstone and sandy shale, and gray claystone.
980-	95-Ctgs:	Samples every 5 feet, dark gray sandy mic. shale and brown claystone.
995-	1010-Ctgs:	Samples every 5 feet, black mic. sandy shale.
1010-	15-Ctgs:	Hard black shale with mica.
1015-	20-Ctgs:	Light gray lime, dark red and green shale.
Bangor		
1020-	40-Ctgs:	Samples every 5 feet, light gray limestone, green and red shale.
1040-	45-Ctgs:	Same. Part of limestone with brown stain.
1045-	50-Ctgs:	Light gray crystalline limestone, greenish gray limestone and green shale and chert.
1050-	55-Ctgs:	Greenish gray cherty limestone and gray limestone.
1055-	60-Ctgs:	Same.
1060-	65-Ctgs:	Same with green and red shale.
1065-	75-Ctgs:	Same.
1075-	80-Ctgs:	Light gray limestone.
1080-	85-Ctgs:	Same.
1090-	95-Ctgs:	Light gray crystalline limestone.
1095-	1105-Ctgs:	Same.
1105-	10-Ctgs:	Light brown crystalline limestone.
1110-	15-Ctgs:	Same.
1115-	20-Ctgs:	Same and oolitic limestone.
1120-	25-Ctgs:	Light gray oolitic limestone.
1125-	30-Ctgs:	Same.
1129-	35-Ctgs:	Same and green shale.
1135-	40-Ctgs:	Same and granular limestone.

- 1140- 50-Ctgs: Same and granular limestone.
- 1150- 55-Ctgs: Gray crystalline and oolitic limestone.
- 1155- 60-Ctgs: Light gray crystalline limestone.
Crinoid stems.
- 1160- 65-Ctgs: Light brown crystalline and granular limestone with **Fenestella Bryozoa**.
Crinoid stems.
- 1165- 70-Ctgs: Same and oolitic limestone.
- 1170- 75-Ctgs: Light gray fossiliferous limestone and green shale.
Large crinoid stems.
- 1175- 85-Ctgs: Light gray crystalline limestone.
- 1190- 95-Ctgs: Same and oolitic limestone.
- 1195-1200-Ctgs: Brown crystalline limestone. **Crinoid stems**. Green shale.
Oolitic limestone noted.
- 1200- 10-Ctgs: Same.
- 1210- 15-Ctgs: Grayish brown limestone.
Crinoid stems.
Large crinoid stems.
- 1215- 20-Ctgs: Same and granular limestone.
- 1220- 25-Ctgs: Same with abundant **crinoid stems**. Oblong ones also.
- 1225- 45-Ctgs: Brown oolitic and crystalline limestone.
- 1245- 50-Ctgs: Brown crystalline limestone, very fossiliferous.
- 1250- 55-Ctgs: Brown oolitic limestone.
- 1255- 60-Ctgs: Same and granular limestone.
Brachiopod spines.
- 1260- 70-Ctgs: Same.
- 1270- 75-Ctgs: Brown granular limestone.
- 1275- 85-Ctgs: Brown crystalline limestone.
- 1285-1300-Ctgs: Brown crystalline and granular limestone, fossiliferous.
- 1300- 05-Ctgs: Gray crystalline and granular limestone.
- 1305- 10-Ctgs: Dark brown limestone to shaly lime, slightly fossiliferous.
- 1310- 15-Ctgs: Same.
- 1315- 20-Ctgs: Dark brown crystalline, very fossiliferous limestone.
- 1320- 45-Ctgs: Dark brown fossiliferous limestone.
- 1345- 50-Ctgs: Same and black shale.
- 1350- 65-Ctgs: Same as preceding and black shale.
- 1365- 70-Ctgs: Dark brown crystalline and granular limestone and shale.
Pustulose brachiopod.
Fenestella Bryozoa.
Ostracods.
- 1370- 75-Ctgs: Same.
- 1375- 80-Ctgs: Same. Part of limestone stained brown.
Bryozoa.
- 1380- 85-Ctgs: Same and oolitic limestone, part stained brown. **First gas at 1384-94.**
- 1385- 90-Ctgs: Same.
Test for oil strongly positive.
- 1390- 95-Ctgs: Oolitic and crystalline limestone.
- 1395-1400-Ctgs: Same.
- 1400- 20-Ctgs: Same as preceding and fossiliferous dark gray shale.

- 1420- 25-Ctgs: Brown limestone and gray to black fossiliferous shale.
1425- 35-Ctgs: Same.
1435- 40-Ctgs: Same with black shale.
1440- 45-Ctgs: Same.

Second gas horizon

- 1445- 50-Ctgs: Brown granular limestone.
1450- 55-Ctgs: Same and black shale.
1455- 60-Ctgs: Medium-grained sand and sandstone, stained brown.

Hartselle

- 1460- 65-Ctgs: Same.
Very strong show of oil.
1465- 70-Ctgs: Same.
Strong show of oil.
1470- 75-Ctgs: Medium-grained sand with less stain.
Test for oil very strongly positive. Dead oil—1475'.
1475- 80-Ctgs: Fine-grained sandstone with brown stain.
Test for oil very strongly positive.
1480- 85-Ctgs: Same.
1485- 90-Ctgs: Medium-grained sand stained brown.
Test for oil very strongly positive—live oil.
1490- 95-Ctgs: Fine-grained sand slightly stained brown.
1495-1500-Ctgs: Same.
1500- 10-Ctgs: Same with medium-grained sand and sandstone.
1510- 20-Ctgs: Light gray medium-grained sand and sandstone.
1520- 30-Ctgs: Same with coarser sand.
1530- 35-Ctgs: Light gray medium and fine-grained sand.
1535- 40-Ctgs: Gray medium-grained sand and sandstone.
1540- 45-Ctgs: Gray hard fine-grained sandstone.
1545- 50-Ctgs: Light gray hard fine-grained sandstone.
1550- 55-Ctgs: Light gray hard fine-grained sandstone and shaly sandstone.
1555- 60-Ctgs: Light gray hard fine-grained sandstone and sandy shale.
1560- 75-Ctgs: Same.
1575- 80-Ctgs: Same with more sandy shale.
1580- 85-Ctgs: Same.
1585- 90-Ctgs: Gray hard fine-grained sandstone and sandy shale.
1590- 95-Ctgs: Light gray hard fine-grained sandstone and sandy shale.
1595-1600-Ctgs: Same.
1600- 05-Ctgs: Light gray hard fine-grained sandstone and sandy shale.
1605- 10-Ctgs: Gray hard fine-grained sandstone and sandy shale.
1610- 15-Ctgs: Same.
1615- 20-Ctgs: Same with lime frag.
1620- 25-Ctgs: Same.
1625- 30-Ctgs: Black and gray sandy shale.

Gasper

- 1630- 35-Ctgs: Black and gray sandy shale and hard fine-grained sandstone.
1635- 40-Ctgs: Same.
1640- 45-Ctgs: Black shale and gray sandy shale.

- 1645- 50-Ctgs: Black shale and brown claystone.
 1650- 60-Ctgs: Black shale and brown claystone.
 1660- 65-Ctgs: Same and lime frag.
 1665- 80-Ctgs: Same.
 1680- 85-Ctgs: Black shale and brown claystone.
 1685- 90-Ctgs: Black shale.
 Shell impressions noted.
 1690- 95-Ctgs: Black shale slightly fossiliferous, brown claystone.
 1695-1700-Ctgs: Black shale, lime and **shell frag.** noted.
 1700- 05-Ctgs: Black shale, slightly fossiliferous, brown claystone, lime frag.
 1705- 10-Ctgs: Medium-grained sand and sandstone with oil stain.
Very strong positive test for oil.

Bethel

- 1710- 20-Ctgs: Medium to fine-grained sand and sandstone with brown oil stain.
Positive test for oil, fairly good show.
 1720- 25-Ctgs: Same and black shale from above.
Positive test for oil, fairly strong show.
 1725- 30-Ctgs: Same.
Positive test for oil, fairly strong show.
 1730- 35-Ctgs: Gray very hard sandstone, pyrite, black shale, brown claystone.
 1735- 40-Ctgs: Gray hard sandstone and sandy shale and black shale.
 1740- 45-Ctgs: Black shale and gray hard sandstone and sandy shale.
 1745- 50-Ctgs: Gray hard sandstone and sandy shale.
 1750- 55-Ctgs: Same.
 1755- 60-Ctgs: Same and black shale. Pyrite.
 1760- 65-Ctgs: Gray hard sandstone and sandy shale, lime frag. noted.
 1765- 70-Ctgs: Gray and brown hard limestone and material from above.

Prob. St. Genevieve

- 1770- 75-Ctgs: Gray and brown hard limestone, black shale from above.
 1775- 80-Ctgs: Gray shaly lime, oolitic limestone.
 1780- 85-Ctgs: Greenish gray limestone with **crinoid stems**, oolitic limestone.
 1785- 90-Ctgs: Greenish gray limestone and oolitic limestone.
 1790- 95-Ctgs: Same, fossiliferous.
 1795-1800-Ctgs: Same and brown limestone.

Prob. Tuscumbia

- 1800- 05-Ctgs: Light greenish gray and brown limestone and chert, **crinoid stems**.
 1805- 10-Ctgs: Same and chert.
 1825- 30-Ctgs: Light gray limestone, sandstone frag. and black soft shale.
 1830- 35-Ctgs: Same.
 1835- 45-Ctgs: Same with **crinoid stems**.
 1845- 50-Ctgs: Light gray limestone.
 1850- 75-Ctgs: Same with **crinoid stems**.
 1875- 80-Ctgs: Same with **chert**.

- 1885- 90-Ctgs: Same.
 1890-Ctgs: Gray cherty limestone.
 1895-1900-Ctgs: Same with increasing amount of chert. Pyrite.
 1900- 10-Ctgs: Same.
 1910- 15-Ctgs: Light gray limestone and gray and brown chert.

Fort Payne

- 1915- 20-Ctgs: Same.
 1920- 30-Ctgs: Bluish and brown chert and cherty limestone.
 1935- 40-Ctgs: Light gray limestone with chert.
 1940- 60-Ctgs: Same.
 1980- 95-Ctgs: Same.
 1995-2000-Ctgs: Light gray limestone and chert.
 2000- 05-Ctgs: Same.
 2005- 10-Ctgs: Brown and gray chert and cherty limestone.

Summary

Pennsylvanian	to	1015-20'
Bangor & Pennington	1015-20' to	1455-60'
Hartselle	1455-60' to	1625'
Gasper	1625' to	1705'
Bethel	1705' to	1770'
St. Genevieve	1770' to	1800'
Tuscumbia & Fort Payne	1800' to	2010' T.D.

Mr. G. D. Rose
 First National Bank #4
 Center SE/4 of NW/4
 Sec. 5—T 12 S—R 8 W
 Winston County, Ala.

Elev. 745 ft. approx.
 Began September 8, 1947
 Completed December 8, 1947

- 0- 10-Ctgs: Medium-grained mic. gray and brown sandstone.

Pennsylvanian

- 10- 25-Ctgs: Gray medium-grained mic. sandstone and sandy shale frag.
 25- 70-Ctgs: Same as preceding with brown claystone noted.
 70- 75-Ctgs: Dark gray carb. shale, sandy; coal frag. and sand.
 Frag. plant fossils noted.
 75- 85-Ctgs: Same with more fossil plant frag.
 85- 95-Ctgs: Light gray medium and fine-grained mic. sandstone and sandy shale.
 95- 110-Ctgs: Same and sandy carb. shale.
 110- 15-Ctgs: Light gray medium-grained sand.
 115- 20-Ctgs: Light gray medium-grained sand and sandstone.
 120- 30-Ctgs: Light gray mic. sand and sandstone; coarser than in preceding, and sandy shale.

- 130- 200-Ctgs: Light gray medium-grained sand and sandstone.
 200- 10-Ctgs: Dark gray to black hard shale, brown claystone and carb. material; coarse-grained sand.
 210- 20-Ctgs: Dark gray to black hard shale, brown claystone.
 220- 25-Ctgs: Same with more brown claystone.
 225- 35-Ctgs: Same. **Shell frag.** Carb. material noted.
 235- 40-Ctgs: Dark gray shale, hard sandstone frag., calcareous; brown claystone.
 240- 45-Ctgs: Same. Shale with very fine mica.
 245- 50-Ctgs: Dark gray to black shale.
 250- 55-Ctgs: Gray hard mic. sandy shale, coarse sand.
 255- 60-Ctgs: Same with dark gray hard mic. shale.
 260- 65-Ctgs: Dark gray to black hard shale and brown claystone.
 265- 70-Ctgs: Medium to coarse-grained sand.
 270- 85-Ctgs: Same with more coarse-grained sand and sandstone.
 285- 90-Ctgs: Medium-grained angular sand.
 290- 305-Ctgs: Same with coarser sand and sandstone.
 305- 10-Ctgs: Same with coarser sand.
 310- 20-Ctgs: Medium to coarse-grained angular and etched sand and sandstone.
 320- 25-Ctgs: Medium-grained sand.
 325- 30-Ctgs: Medium to fine sand.
 330- 35-Ctgs: Medium-grained sand.
 335- 45-Ctgs: Coarse-grained sand, etched and angular.
 345- 50-Ctgs: Medium to coarse-grained sand.
 350- 55-Ctgs: Fine-grained sand with mica.
 355- 65-Ctgs: Medium to coarse sand.
 365- 85-Ctgs: Gray hard sandy mic. shale.
 385- 90-Ctgs: Dark gray to black hard sandy mic., carb. shale.
 390- 95-Ctgs: Same with coarse sand.
 395- 400-Ctgs: Dark gray and black hard sandy mic., carb. shale.
 400- 15-Ctgs: Black hard mic. shale and sandy shale.
 415- 20-Ctgs: Same with coarse sand.
 420- 35-Ctgs: Black hard mic. shale and brown claystone.
 Crinoid stems.
 435- 40-Ctgs: Black dense shale with fine mica; brown claystone.
 440- 45-Ctgs: Light gray medium-grained sandstone, dark gray mic. sandy shale, brown claystone. **Crinoid stems** embedded in sandstone.
 445- 50-Ctgs: Same.
 Crinoid stems.
 450- 65-Ctgs: Gray medium to fine-grained sand and sandstone with mica; brown claystone.
 465- 70-Ctgs: Light gray medium-grained sand.
 470- 85-Ctgs: Same with brown claystone noted.
 485- 90-Ctgs: Same with brown claystone.
 490- 500-Ctgs: Same and gray sandy shale with mica.
 500- 15-Ctgs: Light gray medium-grained sand.
 515- 30-Ctgs: Same with sandy shale and dark gray mic. shale. Brown claystone.

- 530- 35-Ctgs: Gray medium to fine-grained sand.
535- 40-Ctgs: Gray fine-grained sand and sandy shale.
540- 50-Ctgs: Fine-grained sand with mica.
555- 60-Ctgs: Gray mic. sandy shale.
560- 65-Ctgs: Same and brown claystone. Coal frag.
565- 70-Ctgs: Same with more brown claystone, coal and carb. shale.
570- 75-Ctgs: Gray sandy mic. carb. shale, brown claystone and carb. material.
575- 80-Ctgs: Gray sandy mic., carb. shale and medium to fine-grained sand, carb. material noted.
580- 85-Ctgs: Med. to coarse-grained sand and sandstone and gray mic. sandy shale.
490- 95-Ctgs: Medium-grained sand and sandstone and sandy mic. shale.
595- 605-Ctgs: Medium and fine-grained sand.
605- 25-Ctgs: Coarse to fine-grained sand with mica.
625- 55-Ctgs: Coarse to medium-grained sand and sandstone.
655- 60-Ctgs: Same with brown claystone and gravel noted.
660- 75-Ctgs: Medium-grained sand with mica.
675- 95-Ctgs: Medium-grained sand with mica.
695- 700-Ctgs: Same and sandstone and gray mic., carb. sandy shale; carb. material and brown claystone.
700- 715-Ctgs: Medium to fine-grained sand and sandstone and gray mic. sandy shale.
715- 45-Ctgs: Medium to fine-grained sand and sandstone; brown claystone noted.
745- 55-Ctgs: Light gray medium-grained sand and sandstone.
755- 60-Ctgs: Light gray medium-grained sand and sandstone and brown claystone.
760- 65-Ctgs: Same and dark gray mic. sandy shale.
765- 70-Ctgs: Same and gray shale with siderite concretions.
770- 75-Ctgs: Light gray medium-grained sand and sandstone. Carb. material noted.
775- 805-Ctgs: Medium to coarse-grained sand.
805- 15-Ctgs: Medium-grained sand with occasional coarse grains.
815- 45-Ctgs: Fine-grained sand. Mica noted.
850- 70-Ctgs: Medium to fine-grained sand.
870- 75-Ctgs: Very coarse sand and sandstone, fine-grained sandstone, black carb. shale, pyritized wood, brown claystone.
875- 80-Ctgs: Medium-grained sand and sandstone and sandy shale.
880- 85-Ctgs: Fine-grained sandstone and gray mic. sandy shale.
885- 95-Ctgs: Same with medium and coarse-grained sand.
895- 910-Ctgs: Medium to fine sand.
910- 20-Ctgs: Same with coarse sand, quartz grains with crystal faces.
920- 75-Ctgs: Medium to coarse-grained sand.
975- 80-Ctgs: Very coarse and medium-grained sand.
980- 90-Ctgs: Same with gray sandy shale.
990- 95-Ctgs: Gray hard sandstone; coarse sand, brown calcareous claystone, brown cherty lime; siderite concretions noted. Crinoid stems and Ostracods.

- 995-1000-Ctgs: Light gray limestone.
- Bangor**
- 1010- 15-Ctgs: Light gray limestone.
- 1015- 20-Ctgs: Same and soft green shale noted.
- 1020- 25-Ctgs: Light gray limestone and green shale.
- 1025- 35-Ctgs: Same, slightly fossiliferous.
- 1035- 45-Ctgs: Light gray limestone with green shale noted.
- 1045- 65-Ctgs: Same with **crinoid stems**.
- 1065- 70-Ctgs: Light gray limestone with dark red and green shale.
- 1070- 75-Ctgs: Same.
- 1075- 80-Ctgs: Same with oolitic limestone noted.
- 1080- 90-Ctgs: Same with more oolitic limestone.
- 1090- 95-Ctgs: Light gray oolitic limestone, greenish gray shale, dark red shale noted.
- 1095-1100-Ctgs: Same. Brown claystone noted.
- 1100- 20-Ctgs: Same.
Crinoid stems noted.
- 1120- 25-Ctgs: Gray limestone, part oolitic; dark red shale noted.
- 1125- 30-Ctgs: Same.
Crinoid stems.
- 1130- 35-Ctgs: Dull gray limestone and green shale; dark red shale noted.
- 1135- 45-Ctgs: Gray limestone.
- 1145- 50-Ctgs: Light gray limestone.
Crinoid stems.
- 1155- 60-Ctgs: Same.
- 1170- 75-Ctgs: Gray limestone, green and dark gray shale.
- 1175-1200-Ctgs: Same with brownish gray limestone.
Ostracods.
- 1200- 30-Ctgs: Same with oolitic limestone noted, and **crinoid stems**.
- 1230- 40-Ctgs: Gray and brown limestone.
- 1240- 45-Ctgs: Same with **crinoid stems**.
- 1245- 70-Ctgs: Same with oolitic limestone.
Crinoid stems.
- 1270- 85-Ctgs: Brown and gray cherty limestone.
- 1285- 95-Ctgs: Brown and gray limestone.
- 1295-1325-Ctgs: Same, slightly fossiliferous.
Crinoid stems.
- 1325- 30-Ctgs: Same. Brown granular limestone noted and dark gray shale.
- 1330- 35-Ctgs: Brown hard limestone and dark gray shale with **crinoid stems**.
Bryozoa frag.
- 1335- 40-Ctgs: Brown hard fossiliferous limestone, dark gray shale.
- 1340- 45-Ctgs: Same with **crinoid stems**.
- 1345- 50-Ctgs: Same with **Bryozoa frag.** abundant.
Fenestella Bryozoa noted.
Crinoid stems.
Small pelecypods.
Brachiopod spines.

- 1350- 55-Ctgs: Same. **Fenestella Bryozoa** in matrix of dark gray shale.
 1355- 60-Ctgs: Gray oolitic limestone and dark gray shale.
 1360- 65-Ctgs: Light gray limestone.
 1365- 80-Ctgs: Same with dark gray shale.
 1380- 90-Ctgs: Gray limestone and black shale. Oolites noted.
 1390- 95-Ctgs: Gray limestone with brown stain and black shale. Oolitic limestone.

Strong oil show.

- 1395-1400-Ctgs: Gray limestone with **crinoid stems**.
 1400- 05-Ctgs: Same with dark gray limy shale.
 1405- 15-Ctgs: Same with increasing amount of dark gray calcareous shale.
 1415- 20-Ctgs: Same with gray limestone.
 1420- 30-Ctgs: Gray and brown limestone, fossiliferous.
 1430- 35-Ctgs: Same, and gray medium-grained sandstone.

Hartselle

- 1435- 40-Ctgs: Gray medium-grained sand.
 1440- 50-Ctgs: Same and hard sandstone noted.
 1450- 55-Ctgs: Gray hard medium to fine-grained sandstone.
Strong oil show.
 1455- 60-Ctgs: Gray medium-grained sand, slightly brown stained.
Strong oil show.
 1460- 65-Ctgs: Gray medium to fine-grained sand, slightly brown stained.
 1465- 70-Ctgs: Same.
Fairly strong oil show.
 1470- 75-Ctgs: Gray medium to fine-grained sand.
 1475- 80-Ctgs: Same with brown stain.
Fairly strong oil show.
 1480- 85-Ctgs: Same.
 1485-1500-Ctgs: Light gray medium-grained sand.
 1500- 05-Ctgs: Light gray medium to fine-grained sand.

Summary

Pennsylvanian	.....	to	.....	995'
Pennington & Bangor	.....	995-1000'	to	1430-35'
Hartselle	.....	1430-35'	to	1505' T.D.

